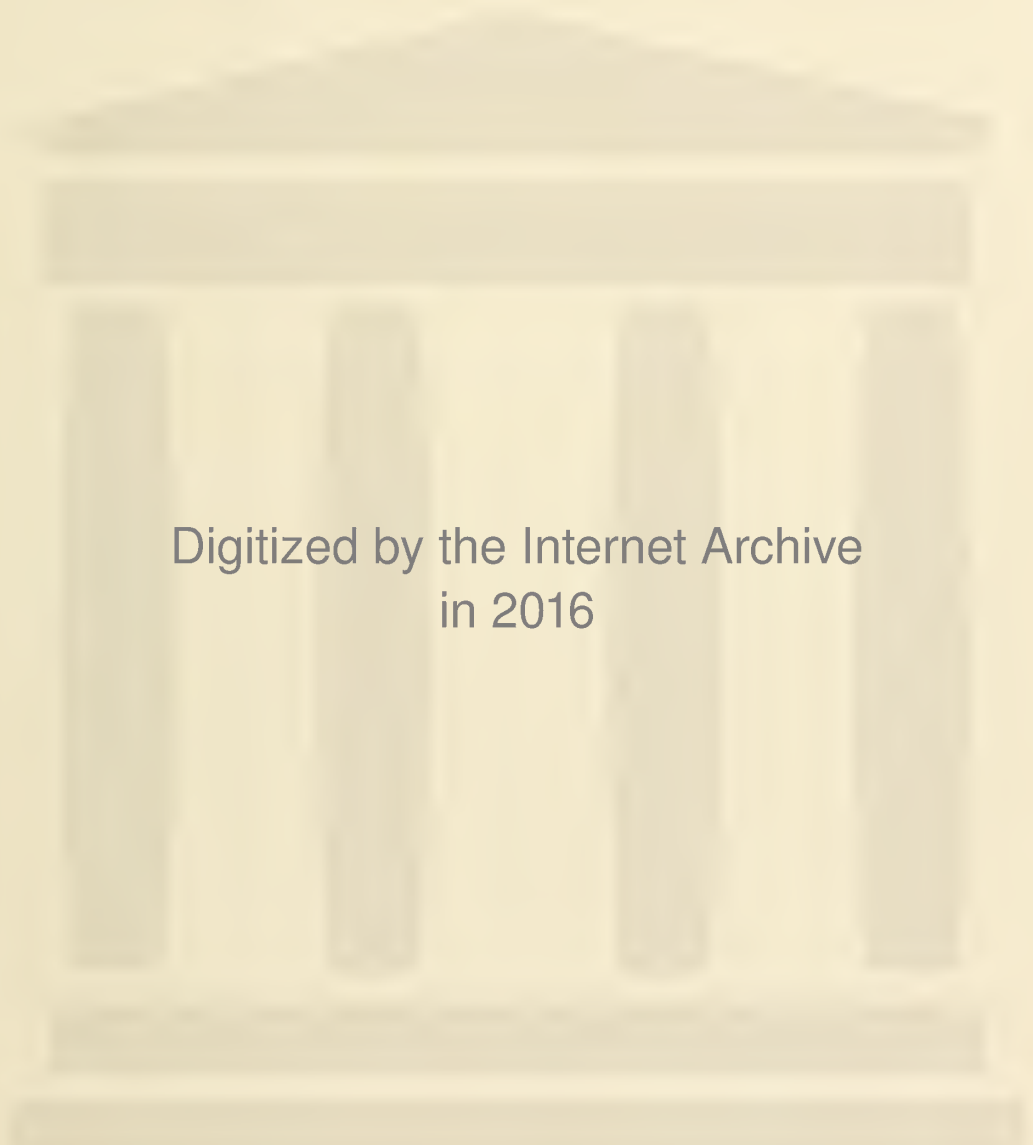


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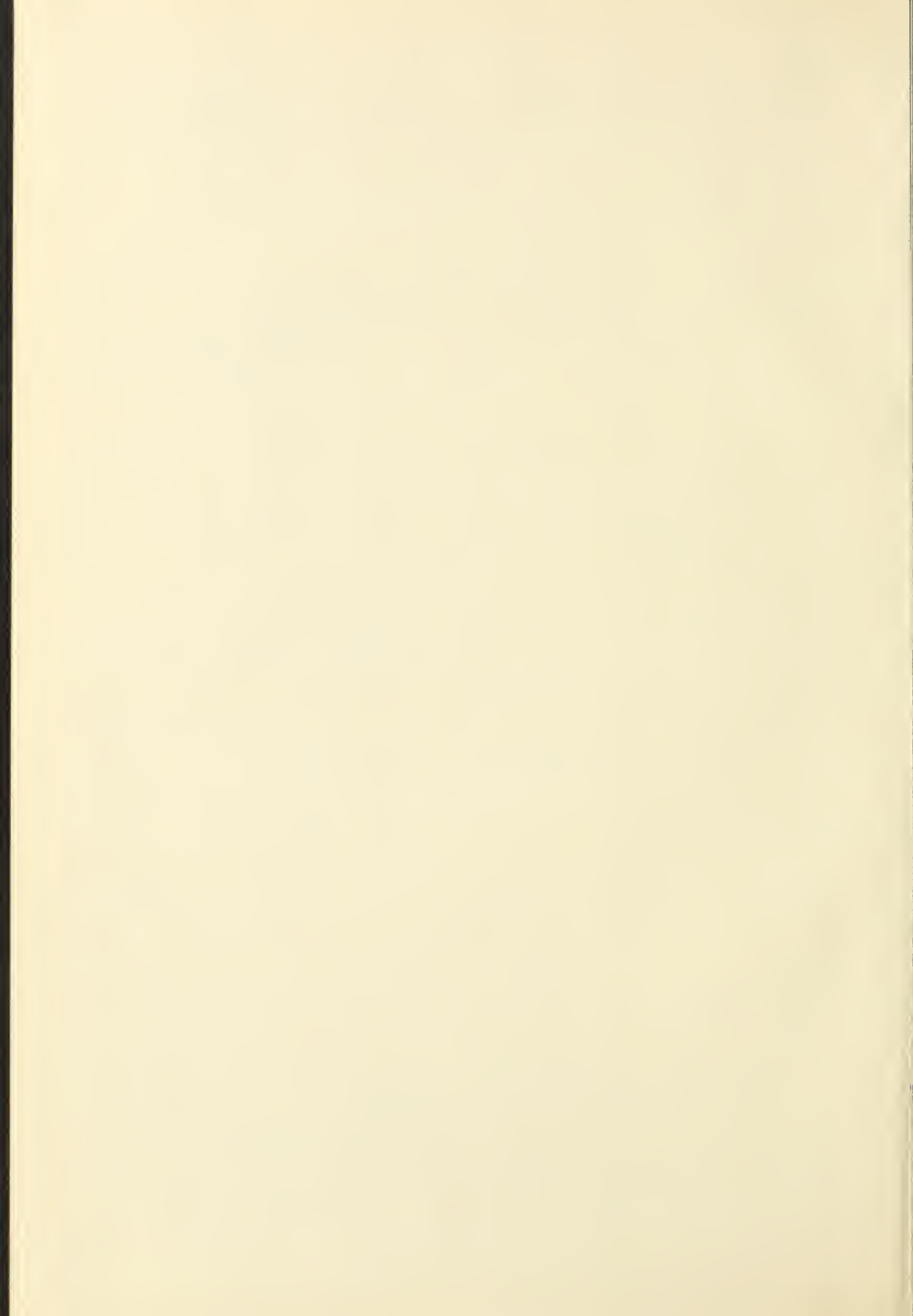
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# THE JOURNAL

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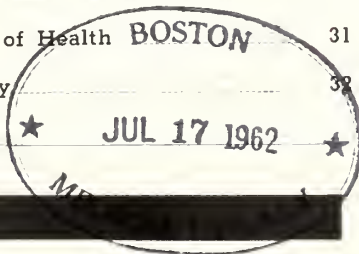
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a look at the  
literature



●● Treatment results were good, and in many cases a dramatic response was noted. Many of the cases had previously failed to respond to various types of therapy, including, in some instances, other topical corticosteroid preparations. ●●

—Gray, H. R., Wolf, R. L., and Doneff, R. H.: Evaluation of Flurandrenolone, a New Topical Corticosteroid, *Arch. Dermat.*, 83:18, 1961

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**References:** (1) Minchew, B. H., & Cluff, L. E.: *J. Chron. Dis.* **13**:354, 1961. (2) Wallmark, G., & Finland, M.: *Am. J. M. Sc.* **242**:279, 1961. (3) Wallmark, G., & Finland, M.: *J.A.M.A.* **175**:886, 1961. (4) Welch, H., in Welch, H., & Finland, M.: *Antibiotic Therapy for Staphylococcal Diseases*, New York, Medical Encyclopedia, Inc., 1959, p. 14. (5) Hodgman, J. E.: *Pediat. Clin. North America* **8**:1027, 1961. (6) Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* **173**:475, 1960. (7) Petersdorf, R. G., et al.: *Arch. Int. Med.* **105**:398, 1960. (8) Goodier, T. E. W., & Parry, W. R.: *Lancet* **1**:356, 1959.

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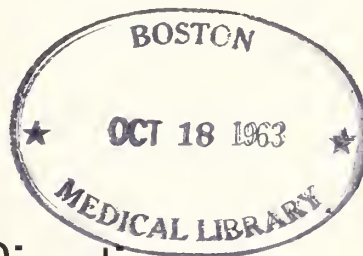
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Vol. 32

July 1962

No. 1

## *Evaluation of Benzthiazide---*



## A New Non-Mercurial Diuretic With Antihypertensive Activity

F. BERNARD SCHULTZ, M. D., F. A. C. S.

Auburn, Alabama

### Introduction

A new era in the therapy of edema and hypertension began in 1957 when the cooperative efforts of Novello and Sprague<sup>1</sup> and Beyer<sup>2</sup> and his associates resulted in the synthesis of chlorothiazide. This agent, a heterocyclic sulfonamide compound, was shown to possess properties of both the carbonic anhydrase inhibitors and mercurial diuretics. Subsequent structure-activity studies of substituted heterocyclic sulfonamides showed that the introduction of a benzylthiomethyl group into position three of the parent heterocyclic ring (Figure 1),

caused a pronounced increase in diuretic potency.

### Pharmacology

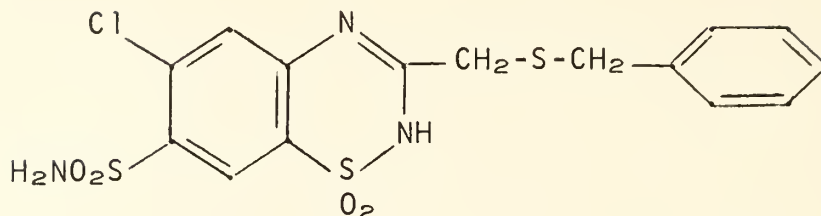
The pharmacological properties of this derivative, benzthiazide, were first studied by P'an<sup>3</sup> and his colleagues in 1959. These investigators reported that benzthiazide increased the urinary output four and eight times more effectively than chlorothiazide in dogs and rats, respectively. They also found benzthiazide to be approximately seven and 16 times more potent in increasing the excretion of sodium and chloride in the same animals. In vivo studies showed that the saluretic effect of this compound is based on an action other than carbonic anhydrase inhibition.<sup>3</sup> Benzthiazide was shown to possess a low degree of toxicity in that the oral administration of one and five gm/Kg a day for

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Figure 1

## STRUCTURAL FORMULA OF BENZTHIAZIDE



over three months was well tolerated by rats and dogs. These animals showed no signs of toxicity or significant change in physical condition or hematological and biochemical values.

#### Purpose of Present Study

The initial clinical studies of the diuretic and antihypertensive properties of benzthiazide were reported by Ford.<sup>4</sup> The purpose of the present study is to further evaluate these properties of benzthiazide, as used by the practicing physician. This is in contrast to the more detailed type of study in which the primary aim is an assessment of the human pharmacology. Such studies performed on diuretic agents provide the necessary information regarding dosage, electrolyte and water metabolism and toxicity which serves as guides in the therapeutic application of the agent. The final evaluation, however, lies with the practicing physician who will add these agents to his therapeutic armamentarium.

#### Material and Methods

The 99 patients included in this study were evaluated over a period of one to three months on an outpatient basis. An additional three hospitalized patients served as laboratory controls. There were 33 male and 69 female patients with ages ranging from 14 to

83 years. The age and sex distribution of patients according to diagnosis is summarized in Table 1.

On the initial visit body weight and blood pressure were recorded and instructions were given to bring in the subsequent 24-hour volume of urine from which the pH, Na<sup>+</sup>, K<sup>+</sup>, and Cl<sup>-</sup> mEq were determined. Additional 24-hour urine volumes were collected during the first and seventh day following the initiation of therapy with benzthiazide.

TABLE 1  
PATIENTS TREATED WITH BENZTHIAZIDE  
ACCORDING TO DIAGNOSIS AND AGE AND SEX  
DISTRIBUTION

Diagnosis	Total No. of Pts.	Sex		Age	
		Male	Female	Range	Average
Congestive Heart Failure .....	34	16	18	48-83	64
Essential Hypertension .....	26	4	22	22-66	46
A.S.H.D. with Arterial Hypertension ..	14	8	6	32-72	58
Premenstrual Tension Syndrome .....	11	---	11	22-41	27
Edema of Pregnancy .....	6	---	6	23-30	27
Edema Secondary to Steroid Therapy .....	3	1	2	40-54	46
Edema Secondary to Breast Carcinoma .....	2	---	2	58-72	65
Hypertension Due to Polycystic Kidney .....	1	1	---	---	48
Rheumatic Heart Disease with Auricular Fibrillation .....	1	1	---	---	32
Meniere's Syndrome .....	1	1	---	---	57
Hepatic Cirrhosis .....	1	Hospitalized patients used as controls for serum electrolyte changes due to benzthiazide. Hospitalized patient.			
Acute Enteritis .....	1				
Menopausal Syndrome .....	1				
<b>TOTAL .....</b>	<b>102</b>				

\* 3-benzylthiomethyl-6-chloro-7-sulfamyl-1, 2, 4-benzothiadiazine-1, 1-dioxide.

## EVALUATION OF BENZTHIAZIDE

The effects of benzthiazide on serum electrolytes also were observed in two hospitalized patients.

Patients with frank edema and congestive heart failure were instructed to reduce their salt intake, and patients with moderate to severe hypertension were advised to use salt less generously. With these exceptions, the patients were maintained on their usual diets.

New or mild cases of hypertension were treated with benzthiazide as the only agent in an initial dosage of 100 mg. a day. This was gradually reduced to 25 mg. a day and maintained at this level with rare exception. Anti-hypertensive drugs and/or sedatives were added to the regimen later as the case warranted. Dosages up to 300 mg. a day were administered to patients with congestive heart failure. The initial dose was reduced to 25 mg. daily after three days to two weeks. Table 2 indicates medications which were maintained or begun concurrently with benzthiazide.

TABLE 2

### MEDICATIONS USED CONCURRENTLY WITH BENZTHIAZIDE

Diagnostic Group	No. Pts.	Digitalis Preparations	Anti-Hypertensive Agents*	Sedation	None
Congestive Heart Failure .....	34	23	10	3	7
Essential Hypertension	26	1	5	0	20
A.S.H.D. with Arterial Hypertension	14	2	7	0	5

\* Including ganglionic blocking drugs, Rauwolfia preparations, Veratrum alkaloids, Ergot derivatives.

## Results

### Diuretic Activity

The new non-mercurial diuretic, benzthiazide, was active in all cases. It produced excellent diuresis in the conditions studied and was comparable in a therapeutic sense to the

results usually observed following mercurials given by injection. The average 24-hour urine volumes for the three major groups studied are presented in Table 3. A statistical analysis of these values demonstrates a significant ( $P < .01$ ) increase in urine volume over the control during the first 24 hours on benzthiazide in all three groups.

TABLE 3

### THE EFFECT OF BENZTHIAZIDE ON 24-HOUR URINARY VOLUME AND BODY WEIGHT IN VARIOUS CONDITIONS

Condition	No. of Pts.	1st 24-hr. Vol.*	2nd 24-hr. Vol.†	3rd 24-hr. Vol.‡	Weight	Loss§
		Aver.	Aver.	Aver.	Range	Aver.
Congestive Heart Failure	34	1,254	1,856	1,817	1-12	3.8 lbs.
Essential Hypertension	26	1,401	2,502	2,271	0-15	4.6 lbs.
A.S.H.D. with Arterial Hypertension	14	1,505	1,984	1,901	1-6	2.9 lbs.
Over-all Averages		1,353	2,107	1,992		3.9 lbs.

\* Control 24-hour urine volume.

† Urine volume collected in 24 hours subsequent to initiation of therapy with benzthiazide.

‡ Urine volume collected in 24-hour period after one week on benzthiazide.

§ After one week on benzthiazide.

The 24-hour volume after one week on benzthiazide did not differ significantly from that obtained in the 24 hours following initiation of therapy in those patients with congestive heart failure or in those with arteriosclerotic heart disease with arterial hypertension.

Further evidence for the diuretic potency of benzthiazide lies in the loss of body weight in these patients during one week of therapy. The greatest average weight loss was noted in patients with essential hypertension. In this group, over  $\frac{1}{3}$  lost five or more pounds. The over-all average weight loss among these three groups was 3.8 pounds.

The effect of benzthiazide in other edematous states is summarized in Table 4. These



# EVALUATION OF BENZTHIAZIDE

TABLE 4

RESULTS WITH BENZTHIAZIDE IN VARIOUS EDEMATOUS STATES

Type of Edema	Patients	Initial Daily Dose of Benzthiazide	Response		
			Exc.	Good	Poor
Premenstrual Tension Syndrome	11	25-50 mg.	9	2	0
Edema of Pregnancy	6	25 mg.	5	1	0
Steroid Induced	3	50-100 mg.	1	2	0
Localized*	1	50 mg.	0	1	0
Hydrostatic	1	200 mg.	1	0	0
TOTAL	22		16	6	0

\* Edema limited to left upper extremity—secondary to radical mastectomy performed four years prior.

\*\* Bedridden patient—metastatic CA of breast. 3-4+ edema of lower extremities.

results are based on physical findings, such as the loss of facial puffiness in patients with steroid induced edema, loss of peripheral edema in patients with edema of pregnancy, and subjective improvement in the vague and often multiple complaints of patients with the premenstrual tension syndrome.

## Antihypertensive Activity

The antihypertensive activity of benzthiazide in the three major groups is presented in Table 5. A significant decrease ( $P < .01$ ) was noted in the average mean blood pressure (diastolic +  $\frac{1}{3}$  pulse pressure) in all three groups. It is notable that 20 of the 26 patients with essential hypertension received benzthiazide as the sole therapeutic agent. Also, 32 of the 34 patients with congestive heart failure had a mean blood pressure greater than 107. This would correspond to a blood pressure of 140/90, the upper limit of accepted normality.

Since the diet and salt intake were not controlled, no conclusions regarding the patterns of electrolyte excretion could be established. The effect of benzthiazide on the serum electrolytes of two hospitalized patients who served as controls for this determination are presented in Table 6. Although these effects as measured in only two patients are in them-

TABLE 5

THE EFFECT OF BENZTHIAZIDE ON BLOOD PRESSURE IN VARIOUS CONDITIONS

Diagnosis	Patients	Av. Mean BP* Before Rx	Av. Mean BP After One Wk. Benzthiazide	Decrease	Per Cent Decrease
Congestive Heart Failure	34	135	116	— 9	14.1%
Essential Hypertension	26	137	117	— 20	14.6%
A.S.H.D. with Arterial Hypertension	14	141	114	— 27	19.1%
Over-all Average		137	116	— 21	15.2%

\* Mean Blood Pressure = diastolic +  $\frac{1}{3}$  pulse pressure.

‡ 32 of the 34 patients in this group had mean blood pressures greater than 107, the upper limit of normal.

selves of questionable significance, they tend to substantiate the findings of Ford<sup>1</sup> who commented on the lack of alteration in the serum electrolytes of patients treated with benzthiazide.

TABLE 6

THE EFFECT OF BENZTHIAZIDE ON SERUM ELECTROLYTES

Diagnosis	Sex	Age	Serum Electrolytes mEq/Liter					
			Before			After 100 mg. Benzthiazide daily for one week		
			Na	K	Cl	Na	K	Cl
Hepatic Cirrhosis	Male	39	140	4.4	31.9	141	4.9	79.9
Acute Enteritis	Male	45	142	4.2	72.9	136	3.85	74.0

## Side Effects

Side effects were minimal. From the 102 patients in the study, four complaints were reported. Two patients with hypertension mentioned a feeling of weakness. In both these cases, however, the presenting symptom of vertigo disappeared on treatment with the diuretic. One patient reported dryness of the

mouth, and one patient with arteriosclerotic heart disease complained of leg cramps on a dosage of 50 mg. per day (over a period of two weeks). The cramps disappeared on reduction of the dosage to 25 mg. every other day.

### Discussion

In a recent publication on the use of diuretic agents in the treatment of congestive heart failure, Ford<sup>5</sup> re-emphasized the fact that renal sodium retention (or failure of sodium excretion) assumes a major role in the pathogenesis of edema. He further points out that agents that decrease abnormal retention of sodium are included in the rational therapeutic approach to the problem of congestive heart failure.

The use of thiazide diuretic agents in the management of hypertension either as the sole therapeutic agent or in combination with rauwolfia and ganglionic blocking agents has been reviewed by Gifford.<sup>6</sup> This author concludes that the introduction of diuretic agents into the field of antihypertensive therapy has resulted in better control of hypertension and fewer drug-induced side effects.

In his study of the diuretic and antihypertensive properties of benzthiazide Ford<sup>1</sup> found that 25 mg. of benzthiazide is equivalent in diuretic action of 1.5 cc. meralluride. As an antihypertensive agent, benzthiazide was effective alone or in combination with rauwolfia and ganglionic blocking agents. The average mean blood pressure was reduced from 141 mm. Hg. prior to therapy to 117 mm Hg. after three weeks on 50 mg. of benzthiazide a day.

The results obtained in the present study demonstrate the effectiveness of benzthiazide, as used by the practicing physician, in the management of hypertension and various types of edema. Considering both the diuretic and antihypertensive properties of this agent, good or excellent clinical results were obtained in 93 of the 99 patients studied. (Table 7.)

TABLE 7  
THE DIURETIC AND ANTIHYPERTENSIVE  
EFFECTIVENESS OF BENZTHIAZIDE

Condition	Physician's Rating of Therapeutic Result				Patient Acceptance		
	Exc.	Good	Fair	Poor	Good	Fair	Poor
Congestive Heart Failure	17	15	2	0	33	1	0
Essential Hypertension	9	15	2	0	23	2	1
A.S.H.D. with Arterial Hypertension	3	9	2	0	12	2	0
Premenstrual Tension	9	2	0	0	11	0	0
Edema of Pregnancy	5	1	0	0	6	0	0
Steroid-induced Edema	1	2	0	0	2	1	0
Localized Edema Secondary To Radical Surgery for Breast Carcinoma	0	1	0	0	1	0	0
Orthostatic Edema	1	0	0	0	1	0	0
Hypertension Due to Polycystic Kidney	0	1	0	0	1	0	0
Rheumatic Heart Disease with Auricular Fibrillation	1	0	0	0	1	0	0
Meniere's Syndrome	1	0	0	0	1	0	0
TOTAL	47	46	6	0	92	6	1

### Summary and Conclusion

That benzthiazide is a useful and safe drug for the practicing physician may be seen by the following conclusions based on the present study:

(1) It was effective in various states of edema of diverse etiology, including congestive heart failure, premenstrual tension syndrome, edema of pregnancy, and steroid-induced edema.

(2) It produced a rapid diuresis which persisted after daily doses for one week, indicating a low tolerance liability.

(3) It was an effective antihypertensive agent when used alone in mild cases or in combination with other agents in the more severe cases.

(4) Only 4 patients of the 102 studied re-

ported side effects. These were mild and of questionable significance.

#### Acknowledgements:

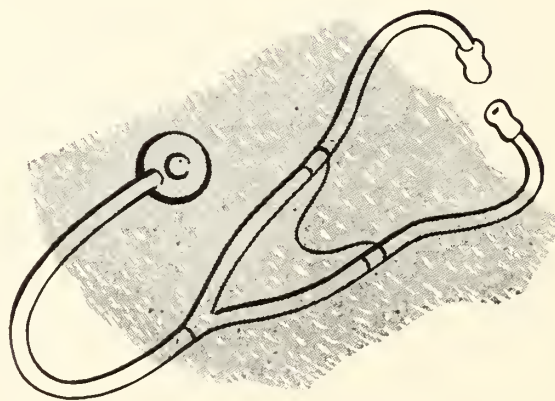
The benzthiazide used in this evaluation was supplied as NaClex<sup>®</sup> by the A. H. Robins Company, Inc., Richmond, Virginia.

Laboratory studies were performed at the Lee County Hospital under the supervision of Mr. W. B. Wheatley, Chief Technician.

Statistical evaluations were made by Dr. Malcolm Turner and Mr. Timothy Ewald, Division of Biometry, Medical College of Virginia, Richmond, Virginia.

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# When To Open The Eardrum In Otitis Media

NOAH D. FABRICANT, M. D.

Chicago, Illinois

Few human experiences are more cordially disliked than pain in the ear. An earache is a symptom that commands prompt attention—forcefully and urgently. A dull, steady ache, a sharp, piercing pain, or a rhythmic, throbbing pain is something to which heed is given more readily by the victim than to almost any other site in the head.

Before sulfonamide and antibiotic therapy came into general use, the eardrum was incised early in acute suppurative otitis media to provide drainage and to avoid when possible mastoiditis and other complications. Later, with the routine employment of these drugs, fewer eardrums required paracentesis and the incidence of surgical mastoiditis was substantially reduced to a point approaching rarity. Despite this important therapeutic advance, incision of the eardrum is still necessary, especially when infection does not respond satisfactorily to drugs and fluid forms in the middle ear cavity as an unwanted aftermath.

---

Dr. Fabricant is a graduate of the University of Illinois College of Medicine and a Diplomate of the American Board of Otolaryngology. He is a member of the Academy of Ophthalmology and Otolaryngology; American Laryngological, Rhinological and Otological Society.

Presented before the Mobile Chapter of the American Academy of General Practice, January 5, 1962.

## Anatomy

To understand why incision of the eardrum is still necessary today, a brief review of the anatomy of the eardrum, middle ear cavity and the eustachian tube may be helpful. To begin with, the middle ear is composed of the eardrum (tympanic membrane), the middle ear or tympanic cavity and the structures it contains, the mastoid process, and the eustachian or auditory tube. The middle ear is separated from the external ear by the eardrum, and from the inner ear by the membrane of the round window and the foot of the stapes in the oval window. The middle ear communicates with the pharynx by means of the eustachian tube and it communicates with the air cavities of the mastoid process by way of the tympanic antrum.

The eardrum can be regarded as a mirror that reflects what is taking place in the middle ear cavity itself. The average eardrum is about 9 mm. high, 8 mm. wide, and about 1/10 mm. thick. It is oval in shape and is composed of three layers: (a) an outer layer which is a continuation of the skin of the external auditory canal; (b) an inner layer which is a continuation of the mucous membrane lining the middle ear cavity; and (c) a middle layer which consists of fibrous connective tissue. The superior and posterior quadrants of the eardrum are closer to the observer than the anterior and inferior quad-



rants. The eardrum has a double blood supply, the superficial blood vessels coursing between the outer and middle layers, and the deep blood vessels lying between the middle and inner layers. Inflammation of the eardrum begins in the region of the blood vessels found in the upper flaccid portion (Shrapnell's membrane), and as the inflammatory process progresses, spreads over the rest of the eardrum. It is at this site that the earliest signs of middle ear inflammation become evident.

The middle ear cavity is often compared to a box with six sides, measuring about 15 mm. from above downward and from behind forward. The middle ear cavity is so minute that two or three drops of water will completely fill it. It has a floor, four walls, and a roof. The roof lies immediately beneath the middle cranial fossa, a site for the extension of middle ear infections. The floor of the middle ear cavity separates it from the jugular bulb and the carotid artery. The lateral wall is formed mainly by the eardrum, while the medial wall or labyrinthine wall contains from above downward, the horizontal semicircular canal, the facial canal, the oval and round windows, and the promontory. The posterior or mastoid wall contains an opening called the aditus which leads to the mastoid antrum. The anterior wall contains the eustachian tube opening. Three small ossicles—malleus, incus and stapes—are articulated together by small ligaments and attached to the walls of the middle ear cavity, and form a chain for the conduction of vibrations from the eardrum to the oval window.

The eustachian tube is a funnel-shaped structure, about one and one-half inches long, which extends from the anterior wall of the middle ear cavity to the nasopharynx. The eustachian tube has two parts: an anterior or cartilaginous part, which forms two-thirds of its length, and a posterior or bony part. The bony part is always open, but the cartilaginous part is closed at its pharyngeal end except during the act of swallowing or yawning, when its lumen is temporarily opened or

widened. The eustachian tube is lined with ciliated epithelium which is continuous with that of the nasopharynx and the middle ear. The close anatomical relationship of the eustachian tube to the nasal cavity predisposes it to many affections, particularly in young children in whom the eustachian tube is shorter, wider and more horizontal than in adults.

### Acute Suppurative Otitis Media

Acute otitis media occurs in two major forms: one in which the fluid content of the middle ear cavity is serous, and the other in which it is purulent. I shall deal first with acute suppurative otitis media, most cases of which are caused by bacterial invasion of the middle ear via the eustachian tube as a result of an acute inflammatory process, originating in the nasopharynx. Streptococci account for about one-half of the pyogenic infections of the middle ear, with pneumococci and staphylococci often accounting for the remainder. Occasionally, such organisms as streptococcus viridans, Bacillus influenzae and Bacillus proteus are the originators.

In acute suppurative otitis media, it is often but a matter of a few hours that separate the time at which fullness or slight twinges of pain are first experienced from the occurrence of advanced changes. At the onset of an attack, pain is the main symptom in and about the ear; in more severe forms, it consists of a boring, deep-seated, lancinating ache which is difficult to control other than by the use of analgesics. In adults, fever ranges from 100° F. to 102° F., while in children fever may rise to as high as 105° F. Slight impairment of hearing takes place during the early stages of a suppurative middle ear, but in a day or two deafness becomes more pronounced. The appearance of the eardrum comprises the most important objective diagnostic sign, ranging from moderate injection to a bulging, hyperemic membrane often displaying areas of hemorrhage and exudate on the surface.

The general treatment of acute suppurative otitis media consists of rest in bed while fever

persists, appropriate medication of the contributing nasopharyngeal infection, and the institution of measures designed to relieve pain either by coal tar derivatives, codeine, or codeine-like preparations. The application of dry heat to the ear by means of an electric pad, an infra-red lamp or a hot water bottle is a time-honored procedure for the relief of pain. It has been a custom to prescribe eardrops for the relief of pain, and at one time a five per cent phenol-glycerin solution was widely used. This medicament has the disadvantage of causing desquamation of the eardrum, thereby interfering with an accurate appraisal of the eardrum pathology. To avoid producing an escharotic effect, I have found that warm glycerine eardrops will relieve pain without producing desquamation.

About a quarter of a century ago, before sulfonamide therapy came into widespread use, the eardrum was incised early in acute suppurative otitis media in order to establish drainage from the middle ear and to avoid possible complications. Then, as a direct consequence of the routine employment of sulfonamides and antibiotics early in the disease, several highly desirable features ensued: (a) fewer eardrums required paracentesis; (b) acute suppurative otitis media could be treated more effectively; and (c) the incidence of middle ear complications was reduced to a point that acute surgical mastoiditis became a rarity.

Before the widespread use of sulfonamides and antibiotics, incision of the eardrum was performed when the eardrum was bulging, earache and fever continued or increased, and when there was a pronounced loss of hearing. Incision of the eardrum provided drainage, relieved pain, usually limited the spread of the suppurative process, and shortened the course of the disease. Today, paracentesis is indicated when the middle ear infection does not respond promptly to antibiotics or sulfonamides.

Incision of the eardrum during acute suppurative otitis media should be undertaken when the eardrum is bulging, hearing reduced, and pain and possibly fever occur.

While general anesthesia is preferable because an incision of an acutely inflamed eardrum will then not be felt, in adults partial anesthesia may be obtained by instilling equal parts of cocaine, menthol and carbolic acid (known as Bonine's solution) into the ear canal. Anesthesia is obtained within two to five minutes, and an incision in the eardrum can be made with diminished discomfort to the patient.

Incision is made in the most bulging part of the eardrum, usually in the posterior-inferior quadrant. It should be more than a puncture, and the entire thickness of the eardrum should be incised. However, a paracentesis or myringotomy knife should not be inserted too deeply in order to avoid touching the wall of the middle ear. Occasionally, unnecessary trauma involves dislocating the stapes and even injuring the facial nerve. In infants and children, it is generally helpful to use a short-acting anesthetic, for a struggling child will greatly interfere with incision of the eardrum.

As the eardrum is incised, a serosanguinous fluid may be obtained, later becoming mucopurulent in character. In other instances, frank pus is immediately encountered. To determine the organisms present in the ear secretions, a culture is advisable. Dry wipes with sterile cotton and the insertion of wicks into the external ear canal to facilitate drainage should be undertaken every hour or two when discharge is profuse. Antibiotics or sulfonamides should be continued while the patient's ear continues to drain, and for several days after the discharge has stopped. The instillation of eardrops at this time is probably useless.

### Serous Otitis Media

The second major type of acute otitis media is one in which the fluid content of the middle ear is serous in character. This condition has been variously described under a number of headings, including such appellations as serous otitis media, serous otitis with effusion, secretory otitis, catarrhal otitis media, and otitis due to mechanical blockage of the



eustachian tube. Whatever the nomenclature, the fluid content of the middle ear is either serous or mucous in character. It is not purulent.

The precise cause of the formation of fluid in the middle ear is not completely understood. A transudate of serum into the middle ear cavity is based on mechanical blockage of the eustachian tube. Abnormal ventilation of the middle ear due to inadequate functioning of the eustachian tube can result in negative pressure in the middle ear, with subsequent formation of a transudate of serum. The transudate sometimes thickens when the blockage of the eustachian tube persists. In general, absorption of air in a blocked middle ear cavity creates a partial vacuum which increases secretory gland activity and causes transudation of fluid from blood vessels into the middle ear cavity.

The basic cause of serous effusion in the middle ear cavity centers about dysfunction of the eustachian tube. Eustachian tube dysfunction is due either to partial or complete closure of the structure. Various factors are responsible, among them: (1) acute nasopharyngeal inflammation and infection; (2) adenoid hypertrophy associated with lymphoid tissue hypertrophy occurring in and around the nasopharyngeal orifice of the eustachian tube; (3) nasal allergy associated with edema of the mucosa lining the eustachian tube and the middle ear cavity; (4) infection of the pharyngeal orifice of the eustachian tube secondary to suppurative sinusitis; (5) mulberry hypertrophy of the posterior tip of the inferior turbinate which impinges on pharyngeal orifice of the eustachian tube; (6) benign and malignant tumors of the nasal cavity and nasopharynx, including nasal polyps and nasopharyngeal fibroma; (7) fibrotic changes in the nasopharynx produced by surgical trauma, radiation therapy, and adhesions; (8) hypometabolism associated with puberty, pregnancy and the menopause; (9) faulty muscular action of the tensor veli palatini, such as occurs in cleft palate and dental malocclusion; and (10) secondary unresolved otitis media, the result of inadequate

or unsatisfactory treatment of suppurative otitis media. In this condition, while antibiotics or sulfonamides may produce prompt subsidence of pain and fever, the eustachian tube remains blocked and secretions are retained in the middle ear cavity. Finally, (11) there is the matter of sudden changes in atmospheric pressure which induce aero-otitis media.

Several signs and symptoms characterize serous otitis media. Most patients have some impairment of hearing, usually a feeling of stuffiness or blockage in the ear. A few patients will experience tinnitus or ringing of the ear, while an occasional patient will complain of pain. The involved eardrum is usually retracted; it may have an amber or yellow cast or a slate-blue color. Bubbles of fluid are seen through the eardrum from time to time. When the middle ear cavity is partially filled by fluid, the upper fluid level limit is recognized as a hair-line running across the eardrum. When the middle ear is filled with fluid, the eardrum will move but slightly following the use of a pneumatic otoscope; when an eardrum is freely movable, fluid is rarely present. Hearing loss varies with the amount of fluid present in the middle ear, and the response to whispered voice is substantially reduced in the presence of fluid in the middle ear. Tuning fork tests will help confirm a diagnosis of serous otitis media. In most instances, while using the 256 and 512 tuning forks, the Weber test will lateralize to the affected ear and the Rinne test prove negative. In the absence of a pre-existing nerve deafness, the audiometric "curve" is frequently almost flat.

Fortunately, many cases of acute serous otitis media are self-limiting. Treatment depends on the cause. In the presence of acute nasopharyngeal inflammation or infection, decongestion of the inflamed mucosal tissues is often helpful. Decongestion can be accomplished either by the use of a good nasal vasoconstrictor spray, medicated nasal tampons, or by means of oral-nasal decongestants. Lymphoid tissue hypertrophy in and around the pharyngeal end of the eustachian tube



may require surgical removal of the offending tissue.

When fluid in the middle ear is caused by allergic factors, these should be controlled if a permanent cure is to be established. In addition to desensitization, the use of antihistaminic drugs and steroid hormones is often effective. In my opinion, steroid hormones constitute one of the most important advances in the treatment of allergic manifestations, and there should be little hesitancy in prescribing them. Actually, the dangers that have been attributed to steroid hormones are minimal when compared to the side-reactions and lethal reactions produced by penicillin.

Suppurative sinusitis contributes to the maintenance of infection at the pharyngeal end of the eustachian tube. The treatment of sinusitis includes the use of nasal medications that will establish drainage and enable patients to breathe freely. In this connection, nasal solutions and oral-nasal decongestants are both useful. One advantage displayed by vasoconstrictor solutions is that nasal decongestion occurs rapidly, in contrast to the 15 to 20 minutes required by oral-nasal tablets to take effect. It has been assumed by some investigators that the oral administration of decongestants will shrink all the nasal and sinusal tissues rather than part of them.

My own clinical experience indicates that there is room for the use of both decongestant solutions and tablets. However, I believe a greater degree of mucosal shrinkage can be obtained by an effective solution than by a tablet. Another valuable therapeutic measure I have found effective in the treatment of a painful, suppurative attack of sinusitis is the use of antibiotics or sulfonamides, which are prescribed orally for several days. Unless fever is present, rest in bed is optional for the patient with acute suppurative sinusitis. However, if fever occurs, the patient is better off in bed.

All the other factors that contribute to obstruction of the eustachian tube should, of course, be corrected. In various patients this will require the removal of nasal polyps or the removal of the mulberry hypertrophy of

the posterior tip of the inferior turbinate. Occasionally, adhesions are discovered in the region of the pharyngeal end of the eustachian tube and these are broken up by digital manipulation. A hypometabolic state, if one is found after basal metabolic and protein bound iodine tests, is readily treated by well established drugs. Finally, when malocclusion is responsible for recurrent serous otitis media in persons who have lost their molar teeth or in patients who have poorly fitting dentures, the services of an orthodontist are required.

For the occasional patient who complains of pain in the ear, the use of warmed glycerine eardrops, which are instilled into the external ear canal every two to three hours, in combination with the local application of dry heat, is helpful. When fever occurs, this may point to the beginning of an acute purulent otitis media; here, antibiotic or sulfonamide therapy is indicated. If, after resolution of the acute process, the infection fails to subside, inflation of the eustachian tube may be undertaken. Ordinarily, this is a reasonably safe procedure at this time. The purpose is to evacuate serum from the middle ear cavity and to establish a proper and desirable intratympanic pressure.

Inflation of the eustachian tube is accomplished in several ways: the Valsalva method, the Politzer method, and by means of an eustachian catheter. In the Valsalva method, the patient is told to compress the nostrils between the thumb and the forefinger so as to occlude the nasal passageways. With the lips compressed, the patient swallows and can usually sense the passage of air through the eustachian tubes and into the middle ear cavities. Nonetheless, Valsalva's method is not always successful, even when the eustachian tubes are patent, and one of the other procedures may be necessary.

In the Politzer method, inflation of the eustachian tube is carried out by means of a specially constructed rubber bag which was originally designed by Politzer, a famous Austrian otologist. A Politzer bag equipped with a nasal tip is gently inserted in one

nostril while the other nostril is occluded by pressure coming from the physician's finger. Air is forced through the nostril as the patient swallows a sip of water. Part of the air thus driven into the nasal cavity will pass into the middle ear on each side, unless they are very much blocked. Various modifications of the original Politzer method have been proposed. One of them is to instruct the patient to say "K-K-K" while the Politzer bag is being compressed.

When both the Politzer method and the Valsalva method are ineffective, eustachian catheterization is then advisable. Before using the eustachian catheter, a weak, topical anesthetic solution may be applied to the surface of the nasal mucosa and the area adjacent to the pharyngeal orifice of the eustachian tube. The catheter is then passed gently with tip down into the nasopharynx. When it touches the posterior wall of the pharynx, the tip is rotated carefully in a lateral direction until it is approximately at a horizontal level. The catheter is then withdrawn slightly and the tip is felt to pass over the posterior margin of the eustachian orifice and slip into the mouth of the eustachian tube. It is then rotated slightly upward. The passage of air is then tested by listening through a rubber tube connecting the physician's ear with the patient's ear being tested. It should be realized that catheterization is not always successfully accomplished, for it is not always easy to get the catheter into the opening of the eustachian tube. Unnecessary roughness may force

air into the soft tissues of the pharyngeal wall, producing emphysema. Marked deviations of the nasal septum and other anatomic irregularities in the nasal cavity are responsible for failure in the catheterization attempt.

In general, the objectives in the treatment of serous otitis media are to rid the middle ear cavity of fluid, prevent its recurrence by correcting the underlying cause, and thereby restore and preserve good hearing. When decongestion of the membranes of the nasal cavity and the eustachian tube and procedures of inflation fail to attain a desirable response in the patient with serous otitis media, paracentesis of the eardrum should then be considered.

Paracentesis of the eardrum is the most direct method of obtaining proper ventilation of the middle ear cavity. When an incision is made in the eardrum, having been preceded by inflation, a drop or two of fluid may drain out of the middle ear cavity. Any remaining fluid should be forced out by additional inflation. In some instances, it is also necessary to follow these steps by spot suction or mass suction, especially when the exudate is highly viscous and tends to string out. In very intractable cases, some otologists have recently inserted small polyethylene tubing into the paracentesis incision and allowed it to remain there for three to six months. Good results have been claimed by proponents of this procedure. Mastoidectomy has also been done, but the results have not been encouraging.

# Some Aspects Of Psychosomatic Medicine

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## Scope of Psychosomatic Medicine

In most structural diseases, the etiologic role of various traumatic, infectious, degenerative, toxic, circulatory, neoplastic, and other physical factors has been well established. The importance of psychologic stresses and conflicts in the development of emotional and mental disorders is self-evident, not only to the physician, but also to the layman. It is less obvious that psychologic stresses may lead to physical signs and symptoms, functional impairment, and probably structural alterations. The term "psychosomatic" has been introduced into medical terminology to emphasize the reciprocal relationship between physical and emotional illness. Psychosomatic medicine may be defined as an integrated approach to the study of disease, making use simultaneously of somatic and psychologic methods in diagnosis and treatment. In this sense, the physician who studies his patient comprehensively from a physiologic and psychologic point of view, practices psychosomatic medicine. In a narrower sense, psychosomatic, or as they have been more recently termed, psychophysiologic autonomic and visceral disorders, are

those diseases which are caused by physiologic expression of emotions through various organ systems. Hyperventilation syndromes may be cited as an example of psychophysiologic respiratory reactions. Paroxysmal tachycardia and some cases of hypertension are examples of psychophysiologic cardiovascular disorders. Psychophysiologic gastrointestinal reactions include certain forms of colitis, many cases of vomiting, anorexia nervosa, and other disorders. Involvement of these three organ systems is most frequently seen in clinical practice, but other organ systems are not exempt from influences originating in the psyche.

Treatment of these disorders concerns not only the psychiatrist, but also many other physicians. It has been estimated that one-third of the patients seen in the physician's office do not have any somatic disease to account for their illness. Another third have symptoms which are in part dependent upon emotional factors, though organic disease is also present. All these patients cannot be referred for psychiatric treatment. Their very number makes this impossible, and even more significantly, treatment by the psychiatrist of a patient with a psychosomatic condition may be lengthy and unrewarding. The family physician can often be more successful. He already has the patient's confidence, he knows his background and problems better, and he can avoid the stigma which is unfortunately still attached to treatment for a "mental" disorder. In most instances he will

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be much more helpful to the patient if he is also aware of some pertinent psychiatric principles.

### Etiology and Pathogenesis

If internal or external emotional conflicts lead to disturbances in the function of various organ systems, and, as is widely assumed, to eventual structural changes in the affected organs, just how are these conflicts translated into physical symptoms? In order to answer this question, it is helpful to review some of the contributions of the workers in this field during the past few decades.

Freud was the first to point out clearly that few events are completely forgotten. Most memory impressions are rather "repressed" or submerged, especially during an early period of our life. He referred to those events which cannot be recalled under ordinary circumstances, as well as the emotional charges which accompany them, as the unconscious. Psychic conflicts can be generated by unconscious memories, wishes, or strivings clashing with inhibiting forces of our environment or of our own conscience. Anxiety is the result, the highly unpleasurable state of tension which all of us have experienced, but which is difficult to describe. Anxiety is accompanied by tachycardia, flushing, increased perspiration, and other somatic components, which may be observed also in the closely related sensation of fear. Not only internal conflicts lead to anxiety, but also external stresses, such as frustrated ambitions, thwarted dependent leanings, or threatened loss of love or of prestige, to name only a few.

The well known postulates of Cannon demonstrate how, in emergency situations, the autonomic nervous system produces physiologic changes which prepare the organism for fight or flight. It should be pointed out that anxiety in response to internal dangers, as it were, produces physiologic responses quite similar to those observed in the presence of external danger.

Wolff and Wolf were able to study a patient with a permanent gastric fistula and actually observed certain physiologic changes,

such as hyperemia, hypermotility, and hypersecretion, as a reaction to psychologically stressful situations.

Selye specifically observed that the organism responds to a variety of stresses with defense mechanisms mediated through the adrenal cortex. It was shown that excitation of the hypothalamus results in stimulation of the sympathetic nervous system, followed by epinephrine secretion, which in turn leads to secretion of the hormones of the anterior lobe of the pituitary, and hence to increased activity of the adrenal cortex. "Diseases of adaptation" may result. It should be noted that this adaptation syndrome can be precipitated by anxiety and other emotional stresses, as well as by physical agents.

According to Dunbar, correlations can be made between aspects of the patient's personality and the diseases which he is apt to develop. Her "personality profiles" or constellations were thought to be specific for each psychosomatic disorder. The best known of these profiles is probably that of the patient who is said to be liable to coronary artery disease. Dunbar found that patients with coronary disease are often hard-working, successful people, with long-range goals, who are willing to forego immediate pleasures and to undertake considerable responsibilities. It has not been conceded by many, however, that a definite correlation between personality and type of psychosomatic illness has been proven to exist.

Franz Alexander proposed that in psychophysiologic disorders, anxiety which cannot be expressed through the highest level of the nervous system activates the autonomic nervous system for long periods of time. That is to say, the action of the autonomic nervous system is chronically maintained, leading to physiologic disturbances of blood vessels, smooth muscle, and glands innervated by the autonomic nervous system. This in turn leads to disturbances of function of various organ systems, especially the cardiovascular, gastrointestinal, and respiratory systems, and, in the opinion of some observers, to eventual structural changes in the affected organs.

Ruesch, who has applied the principles of communication to psychiatric illness, maintains that a person with psychosomatic disease has not developed the adult processes of communication through words, gestures, and so forth, and has remained at a level of communication in which bodily organs are utilized. One might say that, instead of expressing himself in an adult, mature manner, he uses organ language.

In summary, the etiology and pathogenesis of psychophysiologic disorders has by no means been completely clarified. Some workers believe that stressful events affect those organs which have an inherited tendency to respond to that particular kind of stress. Others feel that there is a "somatic compliance", an expression first used by Freud, which makes an organ succumb to psychologic stress. This compliance is often engrafted upon preceding organic illness. For instance, I recently observed a patient who had suffered a spontaneous pneumothorax, with severe dyspnea, and who developed a marked hyperventilation syndrome several months later, but this time in the absence of any evidence of organic disease. Some psychiatrists assume a correlation between the character or dynamics of an emotional conflict and the development of certain psychosomatic disorders. In ulcerative colitis, for instance, one obtains very frequently a history of separation from the mother figure, preceding each exacerbation. Multiple factors are probably responsible. A few tentative formulations in regard to pathogenesis will be mentioned with a discussion of some specific diseases.

### Symptoms

Signs and symptoms depend, of course, upon the organ system affected by the emotionally generated autonomic overactivity. It is important to keep in mind that physical rather than emotional symptoms are usually the presenting complaint. Headache, backache, vomiting, unexplained fatigue, and various gastrointestinal disturbances are noted in many psychophysiologic disorders. Manifestations

of autonomic overactivity, for instance, palpitation, excessive perspiration, and blurring of vision, predominate, but these symptoms may occur in other psychiatric disorders as well. Anxiety is frequently present, for the physical symptom does not effect a satisfactory solution of the unconscious conflict and creates further apprehension through the discomfort which it causes.

### Examples of Psychophysiologic Reactions

For purposes of illustration, the following are a few diseases in which a knowledge of psychosomatic factors is important. The concept that chronic overstimulation of the autonomic nervous system may lead to certain psychophysiologic disorders, finds considerable theoretical as well as clinical support when we consider essential hypertension. An increase in blood pressure accompanies the physiologic preparation for fight or flight. It would seem reasonable to assume that an individual who strongly suppresses hostility and rage, perhaps because of excessive restrictions in his upbringing, may live in what Alexander calls a "chronically inhibited hostile state." If he is unable to give even limited expression to his hostile feelings, the chronic stimulation of the autonomic nervous system may lead to continuous elevation of his blood pressure and eventually to irreversible increase in his blood pressure. Alexander does not assume that this is the only factor involved in essential hypertension, but clinical observation of young adults with essential hypertension frequently reveals a history of excessive parental strictness, and meekness and submissiveness in the patient.

Cardiac neurosis, one of the psychophysiologic cardiovascular reactions, is a syndrome which has been described under various names, for many years. It is of great clinical importance, particularly from a vocational point of view. Few psychiatric conditions exert a similarly crippling effect. We are all acquainted with the patient without heart disease, in whom the accidental discovery of a functional murmur, or subjective symptoms leading to heart consciousness, produce the



paralyzing fear that he is the victim of heart disease; and with the patient in whom comparatively minor structural heart disease leads to social and vocational impairment all out of proportion to the residuals of his illness. In this and other psychophysiologic diseases, one must differentiate carefully between tissue pathology and psychopathology. In treating such a patient, the principle of psychosomatic medicine, treating the patient as a whole, comes to the fore.

The abdomen has been called the sounding board of the emotions. The intestinal tract is well supplied with autonomic fibers. There is also a close correlation between digestive functions and early life experiences which become part of the unconscious. Therefore, psychologic stresses in later life are particularly apt to lead to mental associations which are accompanied by gastrointestinal dysfunction. Overeating due to emotional stress should be treated with consideration of the dynamics involved, not by hypnosis, or with preparations which depress the appetite. Intractable vomiting in the absence of organic disease may be seen in depressions or when the patient is faced with adverse circumstances.

Psychologic factors are by no means the only ones of importance in peptic ulcer, but studies frequently show dependent strivings, which are unconscious. The patient may overcompensate for these strivings by developing excessive ambition and craving for success and independence, which fact has led to the term "tycoon's disease" for peptic ulcer; or he may "act out" or "give in" to these strivings, by openly accepting them and on occasion leading a dependent or parasitic life, which is often seen in alcoholics.

In ulcerative colitis, a characteristic stress, or a recurrent life situation, are found in the majority of cases. A symbiotic relationship with the mother (who is often psychotic), and opposing emotions (ambivalence) toward the mother are often observed in these patients. Ulcerative colitis has been described as being due to the unconscious rage occurring in response to the frustration accom-

panying separation from the mother. Clinical recurrences of colitis are frequently observed following separation from the mother or a mother figure, by death, estrangement, or physical separation. In this illness, close cooperation between internist and psychiatrist is sometimes necessary to achieve the most favorable results.

Many patients with severe bronchial asthma have been found to have an inordinate need for their mother's love; to be ambivalent toward their mothers; and to harbor unconscious fears of losing the mother or of magically "destroying" her by their unconscious hostility. Some workers in this field have theorized that the asthma attack is a cry for the mother's help, in response to the fear of separation. Whatever the dynamics, unconscious conflicts are doubtless important in the causation of many cases of asthma. We must be aware, of course, that psychologic stress is not solely responsible for the asthma attack, and multiple factors, including allergic, constitutional, and environmental, are necessary in order to exceed the threshold of resistance and produce an asthma attack.

It should be stressed again that patients with the above and other psychophysiologic disorders do not fall into stereotypes, either as to personality, internal conflicts, or external stress factors. We can treat each patient best by studying him individually and comprehensively.

### Diagnosis

The problem in diagnosis consists of determining the relative contributions of tissue pathology and psychopathology. Hyperthyroidism, pellagra, myxedema, porphyria, certain forms of epilepsy and brain tumors, and many other structural diseases may be accompanied by pseudoneurotic or other psychiatric symptoms. Psychophysiologic disorders must be first of all differentiated from these structural disorders.

Again, patients with certain mental disturbances, such as some of the psychoses and organic brain syndromes, may complain pri-

marily of physical symptoms, and this may not only lead to unnecessary investigations, but may also obscure the fact that a serious mental disorder exists. Even the physician who is more experienced in psychologic medicine, mistakenly assumes at times that he is dealing with a less serious, psychophysiologic disorder in this type of case. Such bizarre complaints as "electric currents are going through my body" or "my stomach is rotting away" are not characteristic of the patient with a psychophysiologic disease, but rather point to a psychotic disorder.

Since emotional and physical disease frequently coexist, the relative contribution and importance of each must be determined. It has been pointed out that this may be of great practical importance, for instance, in heart disease. In order to make the diagnosis of a psychophysiologic disorder, it is not sufficient to determine the extent of structural illness, and to observe that a discrepancy exists between the latter and the patient's symptoms. Positive evidence of psychopathology must be obtained. For purposes of diagnosis, and even more for purposes of treatment, an evaluation of the patient's personality is indicated, if psychologic factors are thought to contribute to his illness. One should obtain a longitudinal review of the patient's life history; discuss his present life situation; evaluate his mental status; and inquire concerning the incidence of emotional disease in his family. On occasion, a psychiatric consultation may be necessary. Gaining the patient's trust, and giving him full opportunity to discuss his problems, is essential in diagnosing psychophysiologic and other emotional disorders.

### Some Suggestions Concerning Treatment

No attempt will be made to discuss comprehensively the treatment of psychosomatic disorders. However, psychiatrists have found that a few principles are of value in treating these patients.

1. A thorough workup from the standpoint of physical disease is essential not only for diagnosis, but also to allay the patient's ap-

prehensions that the doctor may overlook the cause of his complaints. Once organic disease has been ruled out, however, examinations should not be repeated without further indications. This merely weakens the patient's belief in his doctor's judgment, and does not help the patient, and may actually hinder him, in facing his real problems effectively.

2. The physician should free himself consciously and unconsciously from the misconception frequently held by the layman, that an emotional disorder—including a symptom for which no physical cause can be found—is a sign of constitutional or acquired weakness or inadequacy, or a product of the patient's imagination. In the vast majority of instances, this is not true. It is also erroneous to assume that the patient with a psychophysiologic disorder could overcome his symptoms if he were better motivated or made better use of his will power and other faculties. The depressed patient who vomits, for instance, suffers as much as the patient with an acute gastritis. Consciously at least, he would like to find relief and will make every effort to help himself.

3. It is helpful to present the problem to the patient in terms which make him understand the connection between psychologic stress and physical symptoms. Blushing, sweating, loss of appetite, and crying may be given as examples of physical manifestations of emotional distress. One can demonstrate to the patient how continued muscle tension, or awareness of certain parts of his body, can lead to physical discomfort. One can then proceed to explain the connection between his emotional problems and life situation, and the symptoms of his illness. For instance, I recently observed a man who was quite unaware that his severe attacks of vomiting, recurring every morning, were related to an unpleasant work situation.

4. The patient must be reassured in regard to physical illness. If it is present, he should understand that the symptoms are out of proportion to the disease. In some instances, it is helpful to encourage the patient to carry



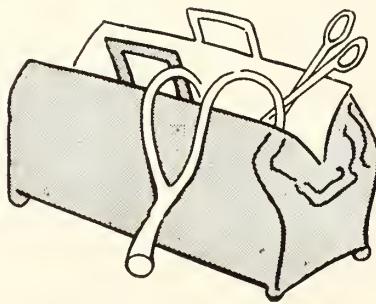
on in spite of symptoms. This holds true in many cases of cardiac neurosis.

5. In addition to all indicated medical and surgical measures, environmental manipulation is sometimes of value. The patient's family setting, marital adjustment, job situation, and social life deserve scrutiny. At times, changes in environment may be more efficacious than any other treatment.

6. It is essential to keep in mind that removal of a psychosomatic symptom, especially when this is done without due preparation, may deprive the patient of a defense which he is not ready to give up. For instance, tremendous emotional upheavals are occasionally seen after surgical removal of a peptic ulcer. Psychiatric efforts to eliminate the patient's psychophysiologic symptoms may like-

wise lead to an increase in his anxiety or to development of a more serious psychiatric disorder, or the patient may substitute another physical symptom as a defense against his anxiety. Insight into the unconscious factors which are responsible for his physical symptoms, must be given judiciously. Otherwise, he may reject it or become even more anxious.

7. In regard to psychotherapy, the non-psychiatrist may well feel sufficiently secure to administer certain forms of psychotherapy in psychophysiologic disorders. He should be able to recognize the criteria for major psychotherapy. Consultation with a psychiatrist is advisable when major emotional illness exists, for diagnostic purposes, on occasion when surgery is considered, or if the patient fails to progress satisfactorily.





## *Editorials*

### **Physician Opinion Poll On Health Care of Aged**

During the past year we have tried to keep you abreast of the developments on legislation regarding the health care for the aged. In our editorials we have discussed the White House Conference on Aging, the Forand proposal, the Auxiliary's Operation Coffee Cup, the Kerr-Mills bill and its implementation in Alabama, the Newburg story, the King-Anderson bill, and other proposals.

Dr. John Simpson during his tenure as president devoted most of his page to this important problem.

P. R. Notes have kept you posted on the latest developments on various proposals for the health care of the aged.

Assuming that other states have been as diligent in disseminating information, one would think that most physicians would be 100 per cent against the Administration's King-Anderson bill and other compulsory methods of providing medical care for the aged under the social security system.

But according to a national survey taken by *Modern Medicine* magazine, only 62 per cent of the 30,000 physicians surveyed are for the Kerr-Mills Act.

According to the survey, the Bow bill, which would provide medical and hospital care by subsidizing voluntary health insurance premiums through federal income tax credits, was in second place with 17 per cent.

The physicians gave the Kennedy-backed plan less than 10 per cent of the vote.

Included in the poll was the Javits bill,

which would pay for some institutional and home services or, optionally, for part of private insurance premiums out of payroll taxes for social security and from general revenue. It was supported by four per cent of the doctors.

Slightly more than seven per cent voted "no preference or against all such legislation."

The survey shows that physicians listing themselves as Republicans show greatest support for Kerr-Mills (69 per cent) and Bow (19 per cent) and least for King-Anderson (3 per cent). Democrats favor Kerr-Mills by slightly more than half, but King-Anderson receives the support of 22 per cent.

Physicians of each geographic region favor Kerr-Mills, although the percentages range from a bare majority in the Mid-East to nearly three-fourths of Southwest doctors. The Mid-East also stands out from other regions by giving greatest support to both the King-Anderson and Javits bills.

By state, support for Kerr-Mills ranges from a low of 43 per cent of New York doctors to 83 per cent in Arkansas. King-Anderson gets its greatest support in New York with 22 per cent. Physicians in cities over 500,000 give Kerr-Mills a bare majority and provide King-Anderson with its greatest support. As community size decreases, the voting pro-Kerr-Mills increases; and the opposition to King-Anderson increases.

### **Alabama Physicians**

Seventy-seven per cent of the 265 Alabama physicians who participated in the poll fa-

vored the Kerr-Mills Act. Following the national trend, the Bow Bill was in second place with 12.8 per cent and the King-Anderson Bill was third with 1.5 per cent. The Javits proposal was favored by 1.9 of the polled Alabama physicians. The survey showed that 6.8 per cent of our physicians expressed "no preference or against all legislation."

Wide differences also are apparent among physicians in private practice, government service, and full-time teaching. Nearly four times as many teaching physicians and more than twice as many government doctors favor King-Anderson than do doctors in private practice. Teaching physicians are the chief supporters of the Bow and Javits bills. In contrast, Kerr-Mills is backed by nearly two-thirds of private practitioners, slightly less than half of government doctors, and a little more than a third of the teachers.

Apparent from comments to the poll is widespread physician reservation about the adequacy of any of the proposed and enacted legislation. This was summed up by an Omaha internist who said, "Unless we first get the basic moral philosophy into legislation, any bill will be pork barrel politics."

#### **Physicians' Proposals For Health Care of Aged**

Two physicians who are members of Congress have introduced two different bills for the health care of the aged.

Representative Edwin R. Durno's (R., Ore.) bill would establish a commission to seek a single, simplified, nationwide voluntary insurance plan for the aged, financed by ability to pay (as measured by tax returns), supplemented by state and federal money.

Representative Durward Hall's (R., Mo.) bill would expand income tax deductions for medical care expenses by the aged or their patrons and grant additional exemptions to aged with heavy medical expenses. It would allow those with no taxable income but heavy expenses in a given year to apply for refunds on previous returns or credits on future returns.

#### **Camp Seale Harris**

Next month nearly 100 diabetic children from several Southern states will gather at Scoutshire Woods near Citronelle, Alabama, for the 14th encampment of Camp Seale Harris.

Named after the late Doctor Seale Harris of Birmingham, who devoted much of his life to working with metabolic diseases, the camp is operated each year by the Diabetic Clinic of Mobile to provide juvenile diabetics, ranging in age from eight to 14, with an opportunity to enjoy the benefits of wholesome recreation and at the same time learn how to take care of themselves.

Dr. Samuel Eichold of Mobile is director of the two week camp, and Dr. Leon Smelo of Birmingham is instructor of diabetes mellitus. They are assisted by dieticians, medical technicians, and student nurses from Mobile Infirmary.

This year the Alabama Diabetes Association will co-sponsor the camp and will conduct a postgraduate program in diabetes mellitus at the camp from August 7th to the 15th. The three-day program will be held throughout the two week period. Physicians wishing to learn more about diabetic children by living, working, and playing with them should write to Dr. Eichold or Dr. Smelo for additional information.

#### **Vaccination Bill Gets Favorable Report**

The Vaccination Assistance Act, H. R. 10541, as amended has been favorably reported by the House Interstate and Foreign Commerce Committee. The bill as reported authorizes a \$36 million appropriation for the next three years. The AMA endorsed the principle of the bill and recommended changes, two of which were incorporated in the measure. The Committee's report in commenting on its amended version of the bill says, "The Committee is in receipt of a communication from the American Medical Association favoring enactment of legislation substantially in the form of the Committee amendment." The bill has received a favorable rule and is expected to reach the floor by the middle of July.



## PROTECTION AGAINST POLIOMYELITIS

Now that there are the two types of vaccine available for immunization against poliomyelitis, physicians are faced with policy decisions as to which type to use and what schedule to follow.

The results obtained by the Salk vaccine are striking and need no elaboration. Alabama in 1961 reached the lowest level of incidence in history, and the early record of 1962 is even more impressive. The necessity of administration by injection only is one of its drawbacks as is the need for multiple inoculations.

Sabin vaccine has been proven effective in mass trials throughout the world and apparently produces effective antibody levels for prolonged periods of time. The most effective results are obtained by giving each of the three types separately. Given at the same time they may result in the overgrowth of one strain and no protection against other strains. The presence of other enteroviruses in the intestinal tract also interferes with the development of immunity; and since these enteroviruses are particularly prevalent in the summer months, primary immunization should not be started except in the late fall, winter, and spring months.

Should epidemics occur, the use of the type specific live virus is indicated, not only to produce immunity but also to establish a non-virulent virus in the intestinal tract. Under these circumstances efforts should be made to reach the total population. Response is rapid and should control the spread of that particular strain of organism.

For use in practice either vaccine may be used—remembering the seasonal restrictions

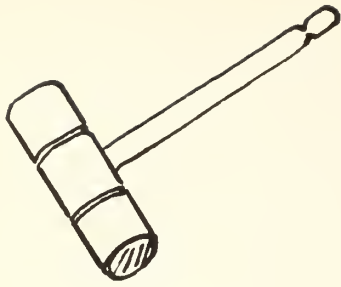


on the live virus. Ideally the whole family should be immunized at the same time with live virus and probably without regard to prior Salk inoculations. The order of administration should preferably be Type I, Type III, and then Type II.

Probably the ideal use of live-virus vaccine is to saturate a community with it, and this means mass programs to reach as many of the population as possible. Availability of funds and of vaccine after October 1962 will determine such programs in the state.

The judicious use of these two vaccines will keep poliomyelitis from becoming a recurring problem in this state.

D. G. GILL, M. D.  
State Health Officer



# President's Page

## KNOW YOUR A. M. A. --- HOW IT FUNCTIONS

We are living in an era of legislative indecision. Professional men, as well as business men, are constantly aware of the threat of governmental reprisals or regulatory controls.

The A. M. A., because of its bitter opposition to the proposals as set forth by the King-Anderson Bill (HR4222), has been under a heavy barrage designed to discredit the leadership of American medicine. There has been an attempt to make the public believe that the great majority of physicians are not in full support of A. M. A. policies, and to a certain extent it has been successful.

This propaganda has been expounded by the socialistic masses, ably supported by the incumbent Democratic administration, which in turn has the heavy backing of the labor unions.

It is very important that you know more about your A. M. A. When you are in Chicago, you should visit the A. M. A. offices and see for yourself what this great service organization does for physicians and the public. You will never know the A. M. A. until you have visited its offices.

The American Medical Association has two major purposes for existing:

1. To help you practice better medicine by promoting the science and art of medicine.
2. To make sure that the American public gets the best health care in the world.



W. C. Cramer, M.D.

The A. M. A.'s annual and clinical meetings are the most important post-graduate medical study sessions in the world. The annual meeting presents approximately 350 *scientific exhibits* and about the same number of scientific lectures. In addition there are hundreds of industrial exhibits, which are an education in themselves.

The American Medical Association was founded in Philadelphia on May 5, 1847, and is now 115 years old. It is a federation of 54 state and territorial medical associations which in turn are composed of almost 2,000 county medical societies.

It is extremely important for you to know that the House of Delegates is the national

policy making body of the medical profession. The House is composed of 218 members, elected or appointed, on the basis of one delegate for each 1,000 active members of the A. M. A. The House also includes one representative from each of the twenty sections of the A. M. A.'s Scientific Assembly. This assures representation from every branch of medicine, since one section is devoted to general practice and the rest to the various specialties. The House in addition includes a delegate from each of the government services—Army, Navy, Air Force, Veterans' Administration, and Public Health Service. The House of Delegates meets concurrently with the A. M. A. meeting in June and in December to establish policies and programs.

Between meetings of the House of Delegates, the A. M. A. is governed by the Board of Trustees. It is composed of the President, President-Elect, and nine trustees, who are elected by the House of Delegates from different geographical regions of the country. Each trustee is named for a five-year term and may succeed himself only once.

The annual budget is approximately \$16,-000,000. About 22.8 per cent comes from membership dues.

Space will not permit a survey of the various councils, committees, bureaus, and scientific programs which the A. M. A. initiates. You should write to the A. M. A. and ask for a pamphlet named "Background Information" which will give you the "basic facts about the American Medical Association, its history . . . its purpose . . . its accomplishments." This is very interesting and should be read by every physician (meaning you).

### Legislation

Another important way in which the A. M. A. paves the way toward better health care for the people is by supporting *sound medical legislation* and by *opposing measures* which it believes would lower the quality of medical care or would not be in the best public interest.

Through its Washington Office, the Legislative Department, and The Council on Legislative Activities all legislation pertaining to medicine and health is carefully studied and analyzed.

In the 85th Congress, 700 bills affecting medicine directly or indirectly were introduced. The A. M. A. testified on 28 measures, supporting 19 and opposing six. Testimony on the others was purely informational. This would not lend support to the frequently heard statement that the A. M. A. opposes everything.

By the time this article is published, the A. M. A. will have held its 111th annual meeting. Undoubtedly many decisions of a far-reaching nature were made at this meeting. Look for the complete reports of the House of Delegates meeting in your A. M. A. Journal, which is the largest circulated medical journal in the world.

The A. M. A. makes one of its greatest contributions to medicine by gathering data on new products, new findings, new methods—correlating, evaluating, and summarizing it—and channeling it to members. This is done through the various councils and committees of the Association. The A. M. A. has developed and brought to maturity scores of constructive reforms and advancements, all of which are a part of the printed record.

The American Medical Association stands for honesty and fairness and is unalterably and eternally against fraud and deception in all that relates to the health and physical welfare of the people.

Ask yourself these questions—and then answer them.

What type of medical practice would I have without the help of the A. M. A.?

What type of hospital practice would I have without the help of the A. M. A.?

If you are the physician you should be, support the A. M. A. and its policy. You need the A. M. A. The A. M. A. needs you.

M. VAUN ADAMS





## ASSOCIATION FORUM

# What The Doctor Expects Of The Hospital Administrator, Hospital Trustee, And The Legislator

F. J. L. BLASINGAME, M. D.

Executive Vice President

American Medical Association

Regardless of how it is financed, a hospital is a service institution operated for the primary purpose of ministering to the sick. In recent years, these institutions have met a great need and expanded in scope and been used by the public to a greater degree than in former times. In the years ahead, the use of hospitals may be further extended.

While he is directing his talents toward discharging his professional obligations to his patients, the physician needs the full cooperation of other physician members of the staff, the administrator, nurses, and allied health professions and services. The physician should work as a pivotal part of the team between whose members should exist a spirit of helpfulness and an atmosphere of mutual respect. Lacking these circumstances, patient care will be damaged.

In other words, I am trying to say that a hospital climate is important; and a modern hospital has to take care to avoid a mechanical, cold, and materialistic attitude. With the marked division of labor, with the great varieties of skills and interests of the personnel and staff, with a large number of personnel ministering to a single patient in a 24 hour period, the impersonal impression can creep in; and the patient can get the feeling that he or she is very incidental and that "everybody's business is nobody's business," as applied to his particular case.

It is well to remember that sick people are usually exceptionally sensitive, often insecure and fearful and worried. Even though modern medicine has greatly improved, we must admit that we have no pills or procedures that are specific for many of the com-



plaints and circumstances that force people to be hospitalized. All who contact the sick in the hospital should be alerted to the obligation to place the patient's needs highest on the priority list.

### Administration

The administration of a modern hospital is a complicated technical assignment involving the expenditures of large sums of money and playing an important role in the community. The administrative machinery of a hospital should be geared to providing at all times the best patient care possible at the lowest cost consistent with that objective. To repeat, achievement of the ideal of service requires a high degree of compassionate understanding and dedication of all concerned.

Given a well-equipped, good physical plant, the physician has the right to expect a well-managed institution. Not only should personnel of technical competence be found and employed but must be administered in a fashion that they feel a part of an institution of service.

It is a simple matter to draw an organizational chart and a more difficult task to find and assign reliable people to carry out duties, but it is a real test of good administration to breathe an "esprit de corps" in the staff personnel. My hat is off, and I have but words of praise for the administrators of the variety that can bring such a spirit into the staff personnel of a hospital. Such an administrator is a blessing from on high.

Let us return again to say that I am aware that a successful hospital program requires understanding and cooperation from the physician toward the administration. The physician and administrator should work to understand their mutual problems, to cut down on waste; to promote accurate and prompt patient care, meeting their needs and those of their families as wisely as possible.

Inasmuch as the hospital has become a central institution to care for the more seriously ill and because the procedures are technically more complicated and expensive, a pooling

of resources and talents has come about, requiring effective liaison if maximum service to the patient is to be accomplished.

It takes more than a head mirror or the stethoscope to make a physician, and it takes more than a white uniform to make a nurse or a technician. Brick and steel help to form a building; but much more is needed to convert a staff, personnel, and a good plant into a well-operated, effective, integrated, functioning hospital. But such can be done, and it is an inviting and engaging task in working toward creating such a service institution.

The administrator must operate a tight ship. He should be firm but fair with those over whom he has authority. He must be economical but wise in his economies—cutting out the frills but preserving the essentials.

He is the agent of the Board of Trustees or governing body of the hospital. This agency gives him power which he must use with discretion. He is managing an empire—an empire of and for others.

The administration must keep adequate records—without excessive red tape. These are for study, for financial and for legal purposes, and others. Every effort should be made to see that records are kept by people who have judgment enough to record accurately the significant information; but to bog down technically trained people in reams of records is unwise, expensive, and unnecessary. In fact, records should enhance good patient care but should never interfere with it.

Operating a tight ship means to me a clean ship. The administration must have a rolled-up sleeves attitude toward that which is unclean and fight it constantly. An old hospital that is clean is better than a new one that is unkept and littered.

The kitchen should be a source of good food that is accurately prepared and properly served. Food for the sick can be a means of demonstrating that the administration and the nursing service are interested in the individual needs of the patient. Nothing de-

stroys public confidence in the operation of the hospital more than carelessness in food service. Imagine a dreamy-eyed nurse serving a general diet to a patient with intestinal obstruction!

In my opinion, the administrator should be all over the hospital—at irregular intervals. He cannot run the average hospital from behind a single desk. Seeing is knowing, and knowing leads to effective action.

### Board of Trustees

I commented earlier that the administrator is an agent of the Board of Trustees. In most instances, it is the legally constituted group responsible for the hospital and sets policy and sees that the institution is administered and operated within the limits granted by law.

The Board of Trustees must not be just window-dressing and a front for fund raising.

It is the obligation of the Board of Trustees to keep informed and to exercise its authority. Regular and called meetings are necessary, at which the administration and the staff, through an elected representative or committee, make reports regarding the various departments and services.

I shall be so bold as to say that perhaps the weakest spot in the hospital system in this country is the failure of hospital Boards of Trustees to acquire and maintain substantial and intimate knowledge of the working of the hospital; to see that policies are hammered out through thorough examination and full, frank discussion; and to make sure that such policies are implemented as established. I am not saying that I lack confidence in the system of boards of trustees as legally constituted bodies to be responsible for hospital operation; but I am saying that all concerned—and especially the patients—would profit if the Board is informed, alert, and decisive. It must not be a rubber-stamp body.

Board members should fortify themselves with sufficient knowledge to make intelligent judgments; in fact, they should energetically press and sell and promote the program of

the hospital. Let me give you an example of what I have in mind regarding the manner in which a Board of Trustees can serve as a liaison mechanism with the public. It is not unusual to have local and state governments, or welfare departments, pay inadequate funds for indigent or financially-marginal cases. Could not the Board of Trustees mobilize public opinion to bring about pressure on local or state governments to allocate more funds to the care of such hospitalized cases?

It goes without saying that members of hospital boards are not qualified to evaluate the practice of medicine in most instances. Prudence ought to dictate, therefore, that the board should consult physicians in matters affecting medical practice, including pertinent aspects of hospital planning, construction, and the purchase of equipment. Supplies and equipment purchased without advice from those who use them may well turn out to be a waste of funds. On the other side of the coin, the physician is not likely to request supplies and equipment frivolously; but such requests should be weighed carefully by the administrator if within his province and by the Board if they are of a nature requiring board action.

What I am urging, in short, is a broad outlook on the part of Trustees, the administrator, and the physician toward their mutual problems to the end that a sound, constructive partnership can be developed in which the three pull together in the direction of constant expansion and improvement of the hospital's services to the public.

To return again to liaison with the public, I should like to point out that I consider this relationship an extremely important function of the Board of Trustees. The Trustees have an obligation to carry out programs designed to interest the public in hospital policy and problems, aimed at explaining what the hospital policies are and why, and what the problems are and how they are being met. The components of hospital costs, for example, are too little understood by the people who use these institutions. The best way to still criticism and to win the allegiance of the



people is to let them know frankly and candidly what is involved in running a hospital, how the money is spent and why, the services that are available, the programs undertaken for the purpose of improving these services for the benefit of the community, and other facts necessary for a full understanding of the hospital as a service institution. Understanding flows from knowledge. Good will of the public will follow from this knowledge and understanding. Better public support will follow this sharing of information with the public.

Boards of Trustees must avoid attempts to resolve all petty staff or administrative problems or disputes but have established mechanisms available to handle major disputes and differences. While the administrator may act as the secretary to the Board and become the principal contact with administration problems, the medical staff should have access to the Board either by a staff member or committee available to the Board of Trustees, attending part or all of the meetings, supplying to the Board of Trustees technical assistance and at the same time becoming aware of the financial and other affairs of the hospital. Such staff representation can influence the remainder of the staff and bring about staff cooperation through knowledge of operations and overall problems. Whenever significant changes are contemplated which affect patient care, the medical staff should be consulted.

Every effort should be made to have a clear, well-defined division of responsibility between the administrator, the professional staff, and the Board of Trustees.

While each is dependent on the other for creating and maintaining the proper atmosphere conducive to good patient care, rules should be established and followed. For example, the Board of Trustees should, in cooperation with the staff, create and enforce rules governing the medical staff. Only good can come from the free flow of information and a willing exchange of ideas between the administrator, the physician, and the Trustee; and nothing breeds trouble faster than con-

stricting and prohibiting such a free exchange of information. Naturally differences will arise, but they will be prevented or settled more promptly and equitably if established channels are open and used.

### The Legislator

As we all recognize, a wide body of law has become written concerning hospitals and governing persons who minister to those who are ill. The law intends to protect the rights of the individual patient and yet preserve his personal freedom.

Government has a role in granting licenses to hospitals and to professional and technical groups.

Too, hospitals may operate as proprietary institutions; as not-for-profit corporations; as foundation projects; or as agencies of municipal, state or federal governments—each in a framework of law.

Governments have a mission in preventive medicine such as we see in requirements for international travel, immunizations against infectious disease, prevention of pollution of air and water supplies, and disposal of sewage, etc.

Many examples exist where government has appropriated funds for the creation and maintenance of physical facilities such as medical, dental, and nursing schools and hospitals—as seen in the Hill-Burton Act.

Of late we have seen government supplying large sums to finance research facilities and projects.

For limited segments of the population we note that government has recognized and assumed peculiar responsibility. Such examples represent veterans who have given a service to our country, the insane, or the tuberculous citizen.

Governments at all levels are being used to care for the indigent. Witness the passage in 1960 of the Kerr-Mills Act which markedly expanded the potential funds available from the federal level out of general funds to pool



with state funds for a program administered locally and with need determined locally.

The AMA has supported the uses of public funds I have mentioned and vigorously opposed legislation which would supply funds for individual professional services and control the condition of services in a manner in which the physician would become an employee of the government. Under such a circumstance the patient looks to the "system" for service, and the physician looks to the government for compensation. Such an arrangement is socialized medicine and is presently before the Congress in King-Anderson legislation. This bill proposes to set up contractual arrangements with hospitals, nursing homes, and a large body of physicians working in and for these institutions and to guarantee the services and determine reasonable compensation for such services. The Secretary of H. E. W. would be empowered to leap-frog over all other levels of government and control hospital, nursing home, and certain professional services. Such a system would be very costly, and a large body of needy people would be ineligible because they are not covered by social security. Such a system would lead to federal control and would promptly destroy voluntary and prepayment health insurance that is being so widely used by our citizens.

A physician has a right to ask the legislator to be alert to manners in which government can be useful—in areas we mentioned earlier, but a physician must deplore and fight the intervention of government to buy and control professional service. If patients need assistance, give them dollars to be used for food, clothing, shelter, medical care, or other needs.

It is not in the public interest for medicine to become a political football, and we cannot allow the politician to traffic for votes on the illness of citizens.

Left to their own designs, men and women will care for themselves and their own. Tax shelter or credit could be given to those who use money to purchase adequate health insurance. We have available the health insurance and prepayment facilities to cover all the needs of the American people. We have legislation at the national level to assist the states in developing a mechanism to care for those who cannot buy insurance.

We have made remarkable progress in hospital facilities, elevating standards of patient care, and gaining wide public acceptance. The medical profession is proud to work with so many other allied groups and with concerned laymen in the promotion of adequate and effective care for our citizens.



## around the state



Dr. Herschel P. Bentley (far left), assistant professor of pediatrics at the Medical College of Alabama, is pictured above with Drs. Robert Ulstrom, professor of pediatrics at the University of Minnesota School of Medicine; Barton Childs, associate professor of pediatrics at Johns Hopkins University; and Judson Van Wyk, associate professor of pediatrics at the University of North Carolina, during the second annual Pediatric Postgraduate Study at the Medical Center. Dr. Bentley was program chairman for the three-day meeting on metabolic diseases of children.



New Officers—Dr. Paul Woodall of Birmingham (left front), newly elected president of the Alabama Association of Obstetricians and Gynecologists, is shown receiving a briefing on the Association's activities by outgoing president Dr. David Partlow of Tuscaloosa. Looking on are (left to right) Dr. Joe F. Garner of Dothan, secretary-treasurer, and Dr. Julian Hardy of Birmingham, 1963 program chairman. Dr. Theodore Middleton of Mobile (not shown) was named president-elect.



Physicians and their wives were entertained by Lederle Laboratories at a luncheon at the Tutwiler Hotel during the meeting of the Alabama Chapter of the American Academy of Pediatrics on June 2.

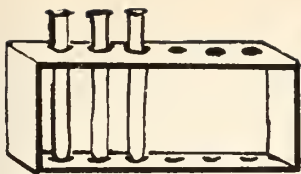


Dr. Harry Simpson of Florence (second from left), outgoing president of the Alabama Heart Association, reviews some of the Association's work for the past year with the newly elected officers. They are (left to right) Drs. Walter B. Frommeyer of Birmingham, chairman of the board; David E. Owensby of East Tallassee, president; and Sterling Edwards of Birmingham, president-elect.



Surgeons, general practitioners, and researchers of the Southern Bell Telephone Company gather around a "live" demonstration of the transmission of electrocardiograms between offices with Southern's Data-Phone service. Scene of the demonstration was the recent meeting of the Alabama Division of the International College of Surgeons and the Alabama Academy of General Practice in Birmingham.





# STATE DEPARTMENT OF HEALTH

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

### SPECIMENS EXAMINED

April 1962

Examinations for malaria .....	7
Examinations for diphtheria bacilli and Vincent's .....	41
Agglutination tests .....	373
Typhoid cultures (blood, feces, and urine) .....	312
Brucella cultures .....	2
Examinations for intestinal parasites .....	3,017
Darkfield examinations .....	8
Serologic tests for syphilis (blood and spinal fluid) .....	24,872
Examinations for gonococci .....	1,568
Complement fixation tests .....	97
Examinations for tubercle bacilli .....	3,945
Examinations for Negri bodies (smears and animal inoculations) .....	200
Water examinations .....	2,277
Milk and dairy products examinations .....	4,376
Miscellaneous examinations .....	4,722
Total .....	45,817



## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director  
CURRENT MORBIDITY STATISTICS

1962

	March	April	*E. E. April
Tuberculosis .....	113	77	164
Syphilis .....	162	135	163
Gonorrhea .....	349	325	311
Chancroid .....	0	2	4
Typhoid fever .....	2	1	1
Undulant fever .....	1	0	1
Amebic dysentery .....	4	11	5
Scarlet fever and strep. throat .....	92	60	151
Diphtheria .....	2	0	3
Whooping cough .....	7	9	41
Meningitis .....	5	2	8
Tularemia .....	0	1	1
Tetanus .....	0	1	1
Poliomyelitis .....	0	0	2
Encephalitis .....	0	0	1
Smallpox .....	0	0	0
Measles .....	369	430	519
Chickenpox .....	112	270	260
Mumps .....	55	66	192
Infectious hepatitis .....	97	75	41
Typhus fever .....	0	0	0
Malaria .....	0	0	0
Cancer .....	647	427	559
Pellagra .....	5	0	0
Rheumatic fever .....	24	18	16
Rheumatic heart .....	56	236	23
Influenza .....	706	300	916
Pneumonia .....	276	263	260
Rabies—Human cases .....	0	0	0
Pos. animal heads .....	4	2	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

### SPECIMENS EXAMINED

May 1962

Examinations for malaria .....	9
Examinations for diphtheria bacilli and Vincent's .....	19
Agglutination tests .....	576
Typhoid cultures (blood, feces and urine and other) .....	462
Brucella cultures .....	6
Examinations for intestinal parasites .....	3,370
Darkfield examinations .....	9
Serologic tests for syphilis (blood and spinal fluid) .....	25,749
Examinations for gonococci .....	1,895
Complement fixation tests .....	63
Examinations for tubercle bacilli .....	4,063
Examinations for Negri bodies (smears and animal inoculations) .....	247
Water examinations .....	2,308
Milk and dairy products examinations .....	4,525
Miscellaneous examinations .....	5,236
Total .....	48,537



## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director  
CURRENT MORBIDITY STATISTICS

1962

	April	May	*E. E. May
Tuberculosis .....	77	98	200
Syphilis .....	135	129	142
Gonorrhea .....	325	292	359
Chancroid .....	2	2	4
Typhoid fever .....	1	2	2
Undulant fever .....	0	2	1
Amebic dysentery .....	11	3	5
Scarlet fever and strep. throat .....	60	59	49
Diphtheria .....	0	0	3
Whooping cough .....	9	3	46
Meningitis .....	2	4	11
Tularemia .....	1	0	1
Tetanus .....	1	2	3
Poliomyelitis .....	0	1	2
Encephalitis .....	0	0	2
Smallpox .....	0	0	0
Measles .....	430	421	1,105
Chickenpox .....	270	228	201
Mumps .....	66	68	146
Infectious hepatitis .....	75	119	45
Typhus fever .....	0	0	0
Malaria .....	0	0	0
Cancer .....	427	728	532
Pellagra .....	0	2	0
Rheumatic fever .....	18	10	9
Rheumatic heart .....	236	107	20
Influenza .....	300	87	144
Pneumonia .....	263	277	202
Rabies—Human cases .....	0	0	0
Pos. animal heads .....	2	1	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

# *The Woman's Auxiliary*

I would like to tell you about a new Auxiliary project. It was approved by the Advisory Council prior to the State Convention in April at which time it was adopted by the Auxiliary. The project has as its aim the organization of Medical Careers Clubs in the senior high schools of the state. These clubs will be sponsored by the county auxiliary with the school or public health nurse acting as advisor. The idea was conceived by our able chairman for Health Careers, Mrs. James Guin, Jr.

It happened like this. Last October in the Tuscaloosa Senior High School, with 1800 students, only five young ladies expressed an interest in a Future Nurses Club. This has been our project. Mrs. Guin suggested that they attempt to organize a Health Careers Club to include both boys and girls who were interested in a health career. At the first meeting 37 students were enrolled. Throughout the year the membership continued to grow, and attendance at the bi-monthly meetings was excellent. The students chose the name, Medical Careers Club, as they felt this name had more prestige. Because of the outstanding success of this undertaking the plan was presented to the Auxiliary. With the approval of the Advisory Council it has been adopted. Any active Future Nurses Clubs are encouraged to continue if they so desire.

Mrs. Guin who will be chairman again this year has worked out a program for the project. With the assistance of her committee a Guidebook will be prepared. A copy of the Guidebook will be sent to the Health Careers Chairman in each organized county. A copy will be mailed on request to a principal or teacher in an unorganized county. The Guidebook will include the following information: purpose, name, how to organize and elect officers, how to write a constitution and by-laws, requirements to receive a charter from the Auxiliary, rules for ordering club pin (already adopted), standards to be



reached for recognition by the Auxiliary, and program suggestions.

The committee is also formulating plans to have each club president attend some function at the State Convention. They will be recognized by the group, and awards will be presented for outstanding achievement—details to be worked out.

Because we feel that not only nursing but the other health careers are vital to the public health and medical profession, we believe that this expanded program has great merit. Not only will it be helpful to those students interested in a health career, but may serve to engender an interest in other students.

Should any doctor or doctor's wife in an unorganized county read this page, won't you tell your school principal about the project? Better yet you wives join us as a member-at-large and give us your assistance with the program. We want and need the membership of the wife of every doctor who belongs to the Medical Association.

Reminder to all members of the Medical Association and Auxiliary—continue the campaign in opposition to the King-Anderson bill. Enlist the aid of all of your friends. The time is crucial, and we dare not relax.

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## The Diagnostic Peritoneal Tap

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Normally there is a very thin film of fluid covering the peritoneal surfaces within the abdomen. With each of the common acute surgical diseases of the abdomen the characteristics of this fluid are altered and its quantity increases.<sup>1, 2, 3</sup> Knowing the characteristics of the peritoneal fluid present in patients who have acute abdominal pain, the cause of which is not clear, is often of great value in deciding upon the need for surgical exploration.<sup>4, 5, 6</sup> By performing peritoneal taps in such instances, and learning these

fluid characteristics, much useful information can be obtained.

The use of the peritoneal tap as a help in diagnosis is not new but it is widely neglected. The primary reason for its neglect is fear on the part of the surgeons that there is great danger in inserting needles blindly into the peritoneal cavity. This fear is based on the belief that the needle is likely to penetrate the bowel and that the penetrated loop of bowel will leak and cause peritonitis. Specific experiments were run in our laboratory to determine whether these fears were justified.<sup>7</sup> In several dogs, 500 needle punctures were made through the abdominal wall under sterile conditions, with careful observation of the dogs for the following two weeks. No evidence of significant harm was observed in these dogs. There was no significant tem-

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perature elevation, they continued to eat normally, and at sacrifice two weeks later there was no gross evidence of previous peritoneal soilage. In other experiments at laparotomy, 250 needle punctures were made into all portions of the bowel. The needles ranged in size from #20 to #18. After closure of the abdomen, these dogs were observed for three weeks, again without elevation in temperature, disturbance of eating habits or gross evidence of intraperitoneal soilage at time of sacrifice. Other acute experiments were performed, penetrating the bowel with 250 needle (sizes #18 to #20) punctures and immediately subjecting the bowel to intraluminal air pressures up to 100 mm. Hg. without leakage of air or fluid from the puncture holes. This pressure is far in excess of any normally occurring intraluminal pressure. It would, therefore, seem justified to conclude that even if the needle does enter the bowel in performing the peritoneal tap no significant harm is to be expected.

Clinically, in our experience with well over 500 peritoneal taps, we have seen no harm attributable to the procedure. Furthermore, the various reports in the literature on the use of the peritoneal tap as a means of diagnosis fail to indicate that harm has been observed from the use of this procedure.

## Technique

It is preferred that the tap be performed in an area near, but not directly into, the site of suspected pathology. In some instances, it is best to have had this site dependent for a few minutes prior to the insertion of the needle. We prefer to use a #18 gauge, short bevel, needle with stylet. Local anesthesia may be used in the skin prior to inserting the needle but in very few instances has this been resorted to, since the insertion of the needle is not significantly more painful than instilling the local anesthetic. The needle is carefully and aseptically forced through the abdominal wall and it is usually possible to feel the snap of the needle as it pierces the two

fascial layers and a third less distinctive snap as it penetrates the peritoneum. With the point of the needle just beneath the surface of the parietal peritoneum gentle suction is applied using a sterile 10 cc. syringe to obtain the fluid for examination. In inserting the needle, it is wise to avoid known vascular structures such as the inferior epigastric vessels, old scars where the bowel is likely to be bound to the abdominal wall, and solid organs within the abdomen.

## Examination of the Fluid

The gross characteristics of the fluid are noted, its color, odor and turbidity. In addition, it is often helpful to examine the fluid under the microscope as a fresh smear, with a Wright stain and with a Gram stain preparation. Actual counts of the red and white blood cells are often of value. The pH of the fluid may be determined with nitrazine paper. Very recently the ammonia content of the fluid has been reported to be of considerable significance in differentiating the various disease processes.<sup>5</sup> In actual practice the number of determinations made on the fluid is often dictated by the clinical history and examination plus the gross characteristics of the fluid. Many times the gross appearance alone is sufficient to answer the question as to whether or not there is an acute surgical condition within the abdomen. For instance, if gross pus is obtained the need for laparotomy is usually clear cut. Similarly, the finding of gross blood, particularly in a patient with trauma, or in a female of child-bearing age, is sufficient to confirm the suspected diagnosis of ruptured spleen or rupture of an ectopic pregnancy, with no further detailed examination of the fluid being required. In many, however, particularly when the fluid is not grossly bloody and not grossly purulent, the more detailed examination of the fluid is of great help in deciding whether or not laparotomy is indicated.

**Clinical Experiences**

Fluids have been examined grossly and microscopically in most of the common acute surgical conditions within the abdomen, including perforated ulcers of the stomach and duodenum, intestinal obstruction, acute appendicitis (unruptured and ruptured), intra-abdominal hemorrhage, acute pancreatitis, and acute cholecystitis. In addition, fluids have been examined from patients with non-surgical diseases, such as the serositis associated with acute rheumatic fever, acute enteritis, ulcerative colitis, ascites, typhoid fever and carcinomatosis.

**Interpretation of Fluid Findings**

In order for the fluid characteristics to be of value they must be interpreted correctly. For convenience the fluids will be discussed according to their gross characteristics, first the purulent fluids, then bloody fluids and then those which are neither grossly bloody nor grossly purulent. In general the following generalizations have been found to be true.

**Purulent Fluid**

The presence of pus free in the peritoneal cavity means peritonitis. Most of these patients are probably best treated by operation, with the exception of those who have "Primary Peritonitis". Careful examination of this fluid enables a differentiation between "primary" and "secondary" types of peritonitis. With "primary" peritonitis the fluid contains large numbers of one strain of organism, such as pneumococci or streptococci, or more rarely, gonococci. In contradistinction to the single type of organism found in patients with primary peritonitis several forms of bacteria are usually seen in those with "secondary" peritonitis. For instance, the peritonitis secondary to a ruptured appendix is characterized by the presence of many gram negative rods plus numerous cocci.

**Bloody Fluid**

By bloody fluid we mean the appearance of the fluid is that of whole blood. There is usually a free flow of this from the peritoneum in contradistinction to the one or two drops of blood which might be obtained from the needle as it encounters a vessel in transit through the abdominal wall. The significance of grossly bloody fluid within the peritoneal cavity depends to a large extent upon the clinical history in the particular patient. With the exception of acute pancreatitis and carcinomatosis, most entities associated with grossly bloody fluid are best treated by operation. In a young woman of child-bearing age the presence of bloody fluid suggests a ruptured tubal pregnancy. In a patient who has received trauma to the abdomen or chest wall a ruptured liver, spleen or kidney is suggested. In the presence of intestinal obstruction, grossly bloody fluid suggests that serious strangulation is present.

**Fluids Neither Bloody Nor Purulent**

In these fluids the microscopic examination is most important. The fluid may be greenish, brown, yellow or milky and may be associated with a number of different disease entities. Very helpful in evaluating fluid of these types is a count of the white blood cells and red blood cells in the fluid. Also the leukocyte differential and the number and kind of bacteria present can be most helpful. If the fluid is associated with an acute inflammatory condition within the abdomen there are usually many white blood cells present and there is almost always a high percentage of polymorphonuclear cells. With a leaking viscus, such as a perforated ulcer, there are also many leukocytes present, again predominantly polymorphonuclear cells. The microscopic finding of many bacteria in such fluid indicates an advanced stage of disease. For instance, if such fluid is found in a patient who has an acutely inflamed appendix

the presence of many bacteria indicates that the appendix has ruptured. Microscopic examination of the fluid is most necessary in differentiating between the various surgical conditions of the abdomen and the "medical" diseases. In "medical" diseases the total white blood cell counts of peritoneal fluid have usually been considerably lower than in surgical diseases, and the differential reveals cells to be predominantly lymphocytic with relatively few polymorphonuclear cells. No bacteria are present with "medical" diseases with the single exception of the primary type of peritonitis. In tuberculous peritonitis and in the fluid found in a single patient with typhoid fever the relatively low total white blood cell count in the peritoneal fluid consisted primarily of lymphocytes.

#### Other Examinations

The pH of most of the peritoneal fluids is alkaline. The rare finding of an acid pH (of 6.0 or less) is highly suggestive of a widely open, still leaking, perforated peptic ulcer. However, most patients with perforated ulcer in this series did not have an acid pH.

The amylase content of the peritoneal fluid has been of considerable help. It is routinely markedly elevated in patients with acute pancreatitis. It also has been found to be considerably elevated in patients with a leak from the upper gastrointestinal tract. In our experience the peritoneal fluid amylase is relatively similar in perforated ulcers and acute pancreatitis, but the blood serum amylase has been different in most instances in that those with acute pancreatitis have had a higher serum amylase than those with perforated ulcer. Of perhaps greater usefulness in this regard is the determination of the peritoneal fluid ammonia content as recently described by Mansberger.<sup>8</sup> The peritoneal fluid ammonia is markedly elevated in patients with perforated ulcer but is not elevated in patients with pancreatitis. It is of interest

that the peritoneal fluid amylase remains elevated considerably longer than does the serum amylase. It is not uncommon to find peritoneal fluid containing large amounts of amylase activity several days after the acute attack has subsided and at which time the serum amylase is normal.

#### Special Precautions

A negative tap is one which yields no fluid. In our experience about 25 per cent of these negative taps are "false negative taps" in that subsequent operation or course of the patient has indicated that fluid was actually present but that it simply was not obtained. It is, therefore, very dangerous to attach any significance to a negative tap. Certainly in any patient in whom exploration is otherwise indicated, the mere fact that no fluid is obtained by tap should never prevent operation.

Differentiation between peritoneal fluid and bowel content. There are two main ways in which one can be certain that the fluid obtained came from the peritoneal cavity rather than from the lumen of the bowel. The easiest way is to examine the fluid microscopically. With exceedingly rare exceptions, if the fluid contains many white blood cells but no bacteria it came from the peritoneal cavity. On the other hand, if the fluid contains many bacteria but no white cells, it came from the lumen of the bowel. Another method for differentiating between these two sources is to take a flat film of the abdomen after injecting 10 to 20 cc. of 50 per cent Hypaque® through the undisturbed needle through which the fluid was aspirated. If the point of the needle is within the bowel the mucosal pattern is quite evident on X-ray. On the other hand, if the point of the needle is in the peritoneal cavity no such mucosal pattern is seen and instead an indistinctly outlined accumulation of radio-opaque substance is evident.



## Conclusions

The diagnostic peritoneal tap is often of great value in determining the need for laparotomy in patients with acute abdominal disease. This has not been a readily accepted procedure because of the wide spread fear of inserting a needle blindly into the abdomen. That this fear is unwarranted is indicated by the absence of complications observed in using the procedure in a large number of patients and by experimental procedures demonstrating the safety of penetrating the bowel in the dog. The fluid characteristics associated with the various surgical disease entities are outlined and discussed. A "negative tap" should be ignored in the total evaluation of a patient. Only the positive tap has real significance. It is our opinion that the diagnostic peritoneal tap is a safe and valuable aid in the diagnosis of acute intra-abdominal disease and that it warrants a general acceptance and frequent use.

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# Adolescence—

## Its Perspectives And Problems

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Studies on the adolescent period of life, particularly the psychological and social aspects, were formerly neglected. During the past ten years there has developed both in this country and abroad an increased interest in adolescent medicine. Adolescent clinics have sprung up in an effort to fill this void. These clinics provide a genuine service to all of us by their concentrated research and studies. But it is the family doctor who is in the best position to take care of these young people. He is in this enviable and unique position because he usually knows every member of a given family almost better than anyone else, and, as a family doctor, he is able to evaluate the total overall family situation almost on a continuum basis. My experience as a country psychiatrist has borne this out time and time again.

Adolescents being what they are, neither adults nor children, but a combination of both, are personalities who, until recently, have been neglected by almost everyone in

the medical profession excepting the family physician. So, it is mainly up to the family doctor to take them through this developmental stage.

What about this particular stage? Certainly, there are problems peculiar to the adolescents just as there are problems peculiar to any other stage of development. Adolescents are different from babies and they are different from adults. Adolescents are more concerned about themselves than anyone else. They are concerned about their bodies, about their personalities, about their popularity, about their schoolwork, about their relationship with their parents, and about their reaching sexual maturity. Their needs and concerns are in relation to themselves. Their goal, however, is to develop into happy, mature, healthy adults with the capacity to love and work. They are urgently striving for the ultimate integration of sex and love.

The mature individual is one who has learned to accept the reality principle over the pleasure principle. He is one who gives up his own egocentricity in order to work with others. This depends upon the development of reasoning power and his ability to love. By love, I mean the ability to be concerned about the welfare of another person.

It is a known fact that before one can love

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and respect others he must feel worthwhile and have self-respect. This is true, as you can see, not only for adolescents but for adults, too. This is a major problem for most teenagers. However, as a rule, it does not have its inception in adolescence, but goes back to infancy, childhood, and pre-adolescence. An adolescent has a past, too. If an adolescent's past life experiences are healthy ones, his adolescence will most likely be healthy. The number one rule is to teach prospective parents and parents of all children the three A's, which have been promulgated by Doctor Leo Kanner, child psychiatrist, Johns Hopkins University Medical School. The three A's are: 1) Acceptance, 2) Affection, and 3) Approval.

An infant has feelings and he can sense whether he is accepted or approved of, and loved. He must be accepted and loved for what he is and not for his achievements alone, because this kind of acceptance is conditional; that is, conditioned upon whether he performed according to our standards. It is essential that parents really want their baby. He needs this unconditional love and knows whether he is getting it by the way his basic needs are met. If his needs are met by trusting, tender, and loving parents (this includes father) he will have a sense of well-being and he will be able to trust his own environment. This, once developed, will produce a feeling of optimism which may continue throughout his entire life. Children adopt the same attitude toward themselves which their parents have. They respect and trust themselves in proportion to the respect and love they have from their parents.

What about the adolescent who has not had the advantage of the three A's? What about the boy or girl who does not feel worthwhile? Chances are, that he or she has a warehouse of bad feelings located in his or her subconscious and perhaps even conscious mind. The basic need here is to get rid of these feelings in an acceptable manner. It has been found that if these depreciative feelings are not allowed to be expressed they will continue to fill up the warehouse until it begins

to come apart at the seams. Then look out, because actions follow feelings. Bad feelings generate bad actions. Good feelings generate good actions. It has been found that if bad feelings and thoughts can somehow be drained off, then good feelings rush in to take their place.

One of the best ways to accomplish this, is to be able to verbalize or talk about one's feelings. One of the biggest difficulties we have with our teenagers is to help them talk about their problems, their gripes, their hopes, their fears, and their aspirations. By the same token, one of their biggest problems is to find someone with whom they can talk honestly. Our young people usually do not talk with their parents or any adult who is not an acceptant person. Parental ambivalence blocks healthy acceptance. At one moment parents talk about how fine and grown-up their son is and then at the next moment they cry about the fact that they are going to lose their little boy or baby. Many times the family doctor is the main confidant for the teenager.

If you are a doctor—then you may have a technique all your own. But in case you haven't, here are a few suggestions. First, be interested in him more than his disease. Second, let him tell you his history and before talking with his parents, ask his permission to do so. Then make a separate appointment (on a separate day, if possible) with his parents, to get their history. Third, listen to him, to what he says not only vocally but be attuned to his affect, his carriage, his attitude, his reactions to questions. If he is a free talker, do not interrupt him. If getting him to talk is like pulling teeth, proceed next with the physical examination. Many times the history spills out during the physical examination. When this happens, stop the physical and listen to his feelings and his thoughts. More than likely, he will communicate what's bothering him.

If this does not work, try the feed-back method. For example, if he answers your question about how he feels about schoolwork with, "It stinks."—then you throw it back to



him gently, "It stinks?" with a question mark. This may get him off on a long account about some of his gripes—his bad feelings—his bad thoughts about school and possibly other areas.

If you are a parent or grandparent—you may already be having gripe sessions at your house. Just in case you're not, then you might introduce the matter at the dinner table with, "I heard a talk or read about the fact that it is important that everybody be allowed—even encouraged—to voice his gripes and resentments." If you do this, you will probably find your teenager saying, "Well, that isn't anything new. You do it all the time." Your reply should go something like this, "Yes, I'm aware of that, but this is new because now I find that it is important that you be allowed that same privilege." Then you must say that there is a time, place, and manner in which this is to be done. This is necessary because there must be some control.

### **Controls A Must**

The matter of control has been one of the most confusing issues of our time. We have been "taken in", so to speak, by the free progressive school of psychology during recent years.

### **Teenagers Want Controls**

Teenagers need controls. This may surprise you but our adolescents need and want controls and will be glad to accept them. For instance, they need to be told when they must be in at night. This gives them something to go by when they are chided by their friends to stay out later and later. The curfew must be within reasonable limits—give or take fifteen or twenty minutes, of course.

Rules for Controls. They must be designed 1) to preserve his life and health, 2) to insure property against destruction, and 3) to respect the legal, moral, and religious codes of the community.

### **Stop, Look, Listen**

The main thing is to take the time to see our youngsters in their proper perspective and hear them out with patience, honesty, and understanding. This is especially true when it comes to sex. One of their biggest concerns is sex. Although they may be concerned about sex mechanics, they are more concerned about their sexy feelings.

What our teenagers want to know is how to manage their anxieties and feelings about sex. They want to know how to have self-respect and feel they are good boys and girls instead of bad boys and girls when sexy feelings creep over them. Again, in our time, there has been too much confusion about feelings and actions. These must be separated as described above. Feelings and actions are two different things. If we can maintain this distinction in our own minds, we will be better equipped to help our adolescents make this distinction in theirs.

Sometimes old concepts never die—but they should. Research has shown that our old concept of telling a child that he should not feel what he feels or not want what he wants does not work. This is known as denial. Another concept known as displacement does not work either. Camouflaging feelings by calling them by a sweeter or another name is not a good substitute for placing these feelings where they belong. These feelings are there—they cannot be swept under the rug. They cannot be ignored.

How are these feelings gotten out in the open? Again, you may have to introduce the subject by saying, "We used to think it was not nice to talk about sex or sexy feelings, but sexual matters need discussing, too. They are mighty important for people of your age." At first, your adolescent may show signs of doubt in the veracity of your statements. Having wanted to talk over such matters for a long time, he may show signs of complete and pleasant surprise. On the other hand, he may become nervous, fidgety, and withdraw.

Another approach would be to say that you know that sex feelings are a very great problem when people are in their teens. Let your teenager set his own pace with respect to talking about sex. Sooner or later he will get into it.

He may say, "You know, Dad, I've been thinking about this for a long time, but I haven't quite figured out how to handle it." "Handle it?" you might reply. "Yes, I don't quite know what to do about going all the way." Then you can answer, "I know how you feel, son. Those sexual urges are wonderful feelings and they are normal and good feelings, but it is better to wait to go all the way until you are married." And here are some of the reasons:

Sex Success is based on love, patience, tolerance, understanding and free communication. These have their greatest chance within the framework of marriage.

First, love is the basis for good, sexual adjustment. And love is best expressed within the framework of marriage. Even with love most young married people need to work out a mutually satisfying sexual adjustment. Many times, this may occur from the very start, but, most likely, it will take time—months, even years. Sex success is something each couple learns in marriage. At first, it might be somewhat clumsy and exasperating, but with time, patience, understanding, willingness to learn, and love above all, this relationship will grow into a mutually satisfying one.

Second, married people must be themselves fully if they are to enjoy sex fully. They must be free, comfortable, and be able to express themselves honestly and openly. This, too, is best done within the framework of marriage. They learn from each other provided their lines of communication are kept alive and open. Here, again, the bad, angry feelings must be gotten out in an acceptable manner.

Third, only within the framework of marriage are a husband and wife afforded periods of complete privacy which is another es-

sential for sexual compatibility and adjustment.

Fourth, marriage offers a deep sense of basic security bolstered by the process of establishing a home, sinking in roots, and learning to live and work together.

Only marriage can offer husband and wife the ingredients for sex success. Love, free communication, complete privacy, and basic security provide the best atmosphere for learning the arts of love-making.

What our young people want is for us to let them know that it is all right for them to have these good feelings, and, at the same time, they want us to help them control their acts. They need to be able to talk with us without being afraid of being condemned. They need and want controls and will exercise them if given half a chance.

### Summary

In summarizing, I should like to offer the following suggestions to you as doctors and/or parents:

1. Remember the three "A's"—Acceptance, Affection, and Approval. Practice them yourselves. Teach them to parents and prospective parents, including our adolescents.
2. Remember, adolescents are different—but they respond best to the family doctor who cares.
3. Encourage griping—but remember controls.
4. Do not interrupt the talking adolescent until he is through.
5. Sometimes the key to the emotional lock can be found during the physical examination.
6. Remember: Sexy feelings and sex actions are two different things.
7. Again, the matter of control. It is all right to talk about sexy feelings and sexy thoughts and sexy desires—but better wait for sexy acts until you're married.
8. Stop! Look! Listen!

# The Future Of Medical Care

## As It Pertains To Internal Medicine

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We cannot speak of the future of medical care without discussing the problems we have today. I have not come here with the solution of our present day problems. I hope, by suggesting to you what I think some of the possible answers are, that I will stimulate you to consider what must be done if we preserve the system of fine medical care that we have today and continue the progress we have made in the past.

Innumerable papers have been written on the definition of an Internist. One of the problems in defining an Internist has been that the medical profession wants to give him two hats. In his first hat he is considered to be only a consultant specialist who makes a diagnosis and refers the patient back to his own physician. The majority of Internists

have shown their preference for another role. That of being a personal physician to the patient and acting as a consultant in that branch of internal medicine in which he feels especially qualified. He may act as a consultant for a general practitioner and other Internists or specialists in other branches of medicine.

As time goes on, medicine becomes a more and more complex field and certainly the average specialist in internal medicine will not be able to be an expert in all phases of his specialty. Probably he, as a rule, will only act as consultant in his sub-specialty. On the other hand, if we do not preserve our present system of medical care, our very foundation will probably be destroyed.

I would like to present to you some of the reasons why I believe we now find ourselves in such a hazardous position and what we can do as individuals and as a group to remedy the situation.

### Third Party

Today, the majority of the American people feel that their medical care should be paid for by a third party, either an insurance

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carrier, the Federal Government, their employer, or their labor union. Whether we approve of it or not, and even though the medical profession may not think it ideal to have a third party involved in the doctor/patient relationship, it is inevitable that we must bow to the will of the majority of the people. If the medical profession accepts this premise, it's up to us to help provide a system whereby the American people can pre-pay medical care and still maintain the high standards that we have today. In order to maintain these high standards, we must continue to do research, develop new methods, new techniques, and new drugs.

This concept of the third party paying medical bills has already disturbed the traditional doctor/patient relationship. We, as physicians, have not done our utmost to prevent its detrimental effect on good medical care.

### Aging Problem

There will be 20 million people over the age of 65 in this country by 1970, due largely to the quality of medical care which we physicians have been able to provide. This group wield a voting power second only to labor, and realizing this fact, we must ask ourselves if we have not perhaps created a Frankenstein Monster which may now turn to destroy the very concept of medical care which gave them added years. Unfortunately, some political leaders realizing the vast potential of this group, have been quick to seize and play upon the two most basic fears of the elderly, death and catastrophic illness. At the same time, the political leaders are doing their best to convince the nation that these elderly people cannot afford proper medical care and that a new system must be devised to care for them.

It behooves us as physicians to do everything in our power to forestall any new system which would undermine or destroy good medical care as we know it today. And we must never assume that while our patients, for the most part, follow us blindly in matters

of medicine, that they will be equally guided by our political beliefs.

What has brought about this radical concept of third party payment for medical care?

In 1932, our political leaders told us it was no longer necessary for us to provide for our old age or to save for a rainy day. We have been taught for 33 years that the Government will provide for our old age, pay us when we are unemployed, and at the same time, we have been taught that we could not afford good medical care. This has been repeated so many times that even many physicians accept it as a fact.

In my daily practice of medicine in a community in which 28 per cent of the citizens are over the age of 65, I often hear this statement: "I don't understand how the poor people can afford medical care." The reason for this statement is because the medical profession has not adequately enlightened the public regarding the facilities that we have provided for good medical care for the indigent.

Nevertheless, the majority of American people have clearly demonstrated that they want some plan of pre-paid medical care. It is significant that in St. Petersburg, which is not considered a wealthy city, we have the largest per capita savings and loan institution in the world. The population of St. Petersburg is 175,000 people. This single institution is one of four in the community. It has over 80,000 accounts with an average of \$3,000 in savings in each account. Twenty-one per cent of the population of St. Petersburg receives Social Security.

The present population of the United States is close to 180 million people and it is estimated that over 127 million of these persons are covered by some type of hospital benefits, 118 million having surgical benefits. It is inevitable that the physician of the future is going to be paid in the majority of instances by a third party.

When we had the traditional doctor-patient relationship, we did not have to worry about fees, for if the patient thought our fee was unreasonable, or if he was unhappy with our service, he would go to another physician.

We now can no longer look to our patient for payment of our fee. We must devise a method whereby we can continue to give our patients good medical care and be paid a reasonable fee for our service. Unfortunately, we are several years late in planning how we can fit ourselves into a scheme of things which is entirely contrary to the thinking of the average physician and still provide the American people with the quality of medical care that they have demanded and received in the past, and which is their right to receive in the future. It is this challenge that we must now meet.

### Psychosomatic Medicine

We have another very important factor that has affected medical care that we have not faced up to. Along with the social philosophy of 1932, our entire way of living has been changed by the 40-hour week. This in many ways is a wonderful thing for the American people and the American family. It gives families an opportunity to be together more, to have adequate recreation, to be happier and healthier.

Along with the 40-hour week, and more leisure time, we have taught the American public that they should see their physician regularly and that they should consult him when they have the slightest symptom. However, this awakening has not proved to be an unmixed blessing. We now have a new group of patients and we have a new branch of medicine which we call "psychosomatic medicine". These people demand a physician with patience and understanding. They want to know why they're tired in the morning, why they can't sleep at night, why their hearts pound when all does not go well at the bridge luncheon. The demand on the physician's time has been greatly increased, and at the same time the number of physicians per capita has been reduced.

Therefore, the physician must do two things, (1)—he must learn to utilize his time better so that his skill and training is used to the greatest advantage of the patient.

We as physicians are exploring group practice as a method whereby the physician's skills may be used with the greatest efficiency. By groups banding together we are able to use capital facilities, such as electrocardiographs, laboratory facilities, and other ancillary equipment to its greatest advantage with the least per-physician capital outlay. Less than five years ago, our County Medical Society went on record saying that injections should be given to patients only by the doctor. I think it is entirely wrong to use the skills of a highly trained physician in a field where we have adequately trained people who can do the required job.

As you may recall, I said that the physician must do two things, (1) he must learn to utilize his time better, so that his skill and training are used to the greatest advantage of the patient. And now, secondly, he must interest more people at the high school level in becoming physicians, or in entering into some ancillary medical field.

Another effect of the 40-hour week is that it limits the number of hours a doctor's office may be open. For example, in San Francisco, a physician is unable to obtain employees who will work on Saturdays. I predict that the time will come when we all have to close our office on Saturday because we are not able to obtain employees who will work on Saturday. Today, most hospitals are working their employees over 40 hours a week. The time is rapidly approaching when in order to attract competent and skilled personnel, we are going to have to have a 40-hour week in our hospitals and pay them properly. The biggest item in the health dollar of today is the cost of labor, whether it's the nurse in your office, or a kitchen aide in the hospital. Today, for the most part, medical facility employees are under-paid, particularly in our hospitals. When we work these people only 40-hours a week, the cost of hospitalization is going to double and probably triple. Dr. Howard Sprague of Boston has predicted that by 1970 the cost of a private room in a Boston hospital will be \$65 per day. We all shudder when we talk about the cost of hospitalization



going up, and figuratively hide our heads in shame,—this is completely wrong. We should fight for our aides to have the same working standards that the steel worker demands, that the coal miner demands, that the automobile worker demands. It is only fair. On the other hand, it is our obligation to see that the patient's health dollar is not wasted. Labor unions have never questioned the cost of good hospital care because they know hospital employees are under-paid and look to this as a place for unionization and an increase in their overall power.

### Medical Recruiting

In 1949, with a population of 150 million people in this country, there were 25,000 applicants to our medical schools. Approximately 6,000 were accepted. In 1959, while our population had increased by 30 million people, there were only 15,000 applicants and of these 8,500 were accepted for admission to our medical schools. These figures would seem to imply that some medical schools have lowered their acceptance standards in order to attract their quota of students. These are alarming figures. Especially so as it is predicted that in 1970, seven million people will be going to college instead of four million. In order to reverse this serious trend, we should immediately explore the possibility of increased guidance at the high school level to interest students not only in medicine itself, but also in careers as nurses, technicians, physiotherapists, X-ray technicians, bacteriologists, dieticians, pharmacists, medical secretaries, etc. We know, of course, today the medical field must compete with the increased demand for engineers, scientists, electronics and the needs of the space age. We must take a more positive approach. We must emphasize to these youngsters the fascination of modern medicine, not only as a physician, but in the fields of bacteriology, laboratory work, X-ray, research, etc. I am sure that many promising young people are deterred from entering some field of medicine due to apprehension which we ourselves perhaps have fostered through over-emphasis

of the difficulties. These young people should have an opportunity to visit our offices, our laboratories, our hospitals, and surgical operating rooms in order that they know of the fascinating career that could be ahead of them. At the same time we must work to assure their having wages and living conditions comparable to other skilled groups. We have a vast reservoir in the youth of this country if we would but take advantage of it.

### Fee Schedule

I believe that internal medicine is the foundation of all medicine and that a complete history and a careful physical examination is the very cornerstone of medical practice. Unless this principle is included in the new scheme of things, the very foundation of medical practice may be destroyed. It is a fact that many people neglect or resent this vital first step before any further treatment since, generally speaking, their insurance doesn't cover it.

Our surgical colleagues are 30 years ahead of us in medical economics and we must catch up with them rapidly. I know all of you have heard the time-worn statement that it is the surgeon's fault that we do not have an even break in Blue Shield and other insurance plans. This is simply not true. Thirty years ago, the surgeons developed a fee schedule system under which they would be adequately paid for their services and, unfortunately, we have failed to develop a similar system. It is imperative that we attempt to work out a comparable fee schedule for the non-surgical practice of medicine. California has spent years developing a relative value fee index. It is not perfect but it is a basis on which to build. There are two basic ways of coding non-surgical practices. One is by coding each procedure that the non-surgical physician performs. For example, a complete history and physical examination, a house call, an office visit, consultations, hospital visits, etc. The other scheme, originating in Florida, was to pay an extra fee for hospitalization for certain serious illnesses, such as myocardial infarction, gastro-intestinal bleeding, etc. We



need to explore both of these systems and possibly combine the two and learn which one would prove to be the most satisfactory. These fee schedules probably should not be minimum fee schedules, but median fee schedules. For from past experience minimum fee schedules usually become maximum fee schedules. Physicians need to explore the cost of doing various medical procedures such as taking an electrocardiogram, laboratory tests, X-ray tests, etc. Unfortunately, since in past we have not had adequate fee schedules for the physician's time, non-surgical specialists have been receiving a moderate but not necessarily excessive fee in some instances for his laboratory services and he has used this to make up the deficit in professional fees. We cannot fall into this trap for studies are going to be made as to the cost of laboratory work, X-ray work, and the costs of other services essential to good medical practice. At the present time, the department of Health, Education and Welfare has granted Harvard University \$300,000. This grant is for a period of five years and its purpose is the investigation of economic and administrative problems of medical care. Under this grant the Harvard School of Public Health will investigate such matters as the impact of Governmental, collective bargaining, and good practice programs; current and future personnel requirements; and the role of prepayment plans.

The American Society of Internal Medicine is sponsoring a foundation for socio-economic research and education. It is hoped that we can persuade pharmaceutical companies and philanthropic organizations to grant money for research. It is planned to investigate the cost for doctors to perform various aspects of their professional practice in order that we may establish equitable fee schedules.

We have another important problem to solve. Two months ago I was shocked while in Phoenix, Arizona, when an Internist stated that: "If patients were not admitted to hospitals in Arizona for diagnostic purposes, in order to take advantage of insurance and doctors thereby perjuring themselves, there would be no hospital bed shortage." Two

weeks ago I read a Newsletter of the Hawaiian Society of Internal Medicine pleading for Internists to charge insurance companies honestly. These are shocking statements. I believe this only applies to a tiny segment of the medical profession. How can a patient have faith in a physician who connives with him in dishonesty? One of our biggest failures is that we have not, or we are not able to, clean our own house. If we could do this, the social leaders could not condemn the medical profession. As a substitute for our failure as a medical society to clean our own houses, today we have standard committees in our hospitals. We also have tissue committees, record committees, and the joint commission of accreditation. These groups are increasing our standards of medical care. We must fight for quality care for everyone.

### Conclusion

In conclusion, I would like to again say that I believe internal medicine with the complete history and careful physical examination is the backbone of medicine. And in order to have good quality medical care in the future, a system should be devised so that physicians performing these services may be adequately paid by the third party. If this is not done, we will not progress. I hope that you will ponder over the possibility of our medical societies providing help to vocational counselors in order that we may attract more people into medical careers. And that we, as physicians, will continue to work on relative value fee indices in order that the American people can have their quality medical care paid for by a third party and yet preserve our present system. It was clearly demonstrated in the Federal Government insurance program for government employees introduced July 1st of last year that the majority of government employees have not chosen the cheapest medical care plan to provide for themselves and their families, but have chosen the most expensive plan proving that the American people want the best medical care possible regardless of what it costs and it is our duty, as physicians, to study methods of quality control.



## *Editorials*

### **DR. EMMETT CARMICHAEL**

During a recent visit to the Medical College of Alabama we had an opportunity to spend some time discussing with Dr. Emmett B. Carmichael, assistant dean of the Medical College and the School of Dentistry, the history of medicine in Alabama.

For many years he has done research on our Association and has presented papers at national meetings on Alabama physicians who have merited national, and in some instances, international recognition.

In 1942 he started a new hobby, that of collecting personal papers of Alabama physicians and dentists. Today the collection includes a large variety of interesting historical items such as, college diplomas; medical college diplomas; honorary degrees; licenses to practice; membership certificates in societies, clubs, et cetera; service records including commissions and discharge papers; cards that were required for entrance to medical courses at the turn of the century; newspaper clippings about the highlights in the physicians' activities; certificates of awards; documents signed by presidents of the United States; pictures of physicians and dentists; and old entry books which recorded that the bills were paid with produce such as meats and live stock.

These items along with old saddle bags, microscopes, and both medical and dental instruments are on display in the Lawrence Reynolds Historical Library. The collection of instruments includes metal scarificators, a skull saw, Kelly's tissue forceps, Green's mouth gag, Roalde's nasal specula, Howard's

vaginal specula, Mayo-Hegar needle holder, pocket gum lancet, burnisher, turn key for extracting teeth, and a set of scalers, to mention only a few of the interesting and valuable items.

The collection was undertaken by Dr. Carmichael to preserve this type of materials for posterity since they represent in a large measure the history of medicine in Alabama. The collection is a storehouse of information which can be located in no other library. The economics of the country is reflected in the priceless entry books during the various depressions that we have experienced. The collection will be a valuable source of materials for future medical historians. Many items in the document section are priceless since they are the only ones in existence and therefore cannot be replaced.

It is Dr. Carmichael's hope that physicians and dentists will enter a statement in their wills that their personal papers and documents are to be added to the collection at the University of Alabama Medical Center so that efforts will be permanently recorded.

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### **CORRECTION**

The leading scientific paper in the July issue of the Journal of the Medical Association of the State of Alabama listed the author as a Fellow in the American College of Surgeons.

This mistake was inadvertently made by the editorial staff of the Journal, and should have listed Dr. F. Bernard Schultz as a Fellow of the American College of Cardiology.

## WE RISE TO ANOTHER CHALLENGE

Approximately twenty years ago the Alabama Tuberculosis Association and the Alabama State Health Department embarked upon an extensive tuberculosis case-finding program involving mass chest X-ray studies of the general population. It was already a well established fact that early tuberculosis was asymptomatic tuberculosis, and that an X-ray examination of the chest was the means par excellence for detecting pulmonary lesions in the asymptomatic stages of this disease.

In the early years of this program there were doubts in the minds of some physicians as to both the value and the propriety of this approach. A few physicians insisted that this practice represented another manifestation of creeping Socialized Medicine. Some reacted violently even to the point of preventing the tuberculosis case-finding program from coming into certain areas of the state.

The course of events in the past twenty years has left these detractors behind. The immense value of routine radiography of the chest has been amply demonstrated. Countless asymptomatic people with tuberculosis have been discovered and subsequently effectively treated in the relatively early stages of the disease. In addition, the by-products of the search for tuberculosis have been most rewarding. Innumerable individuals have been uncovered with significant but asymptomatic non-tuberculosis diseases of the chest—bronchiectasis, lung abscess, fungal diseases, cardio-vascular abnormalities, benign and malignant tumors, sarcoidosis, diseases of the esophagus and diaphragm, etc. The good faith and responsible stature of the voluntary and official agencies concerned have been demonstrated.

Now we are entering a new phase in respiratory disease control, making preliminary efforts towards the understanding and future conquest of another important entity among diseases of the chest. It is not too soon. Emphysema has become probably the commonest serious disease seen in the offices of physicians specializing in pulmonary disease. Just as twenty years ago practically every new patient entering a sanatorium had far advanced cavitary tuberculosis, so today practically every patient with emphysema has advanced disease when first diagnosed, for the pathogenesis of this condition is indolent and the resultant encroachment on respiratory reserve is likewise slow and unrelenting.

But just as there never was an individual with advanced tuberculosis who at one time did not have asymptomatic disease, so every individual with advanced emphysema must perforce have had "minimal" disease. The early symptoms in retrospect are misinterpreted only as a "smoker's cough" or an "asthmatic condition". How can these individuals with early disease be found? What can be done with them? Can the inexorable course of the disease be halted or altered favorably?

We have a partial answer to the last question. We do know that many individuals even with relatively advanced emphysematous disease can indeed be improved with intelligent, appropriate therapy. Bronchodilators, secretory expectorants, antibiotics, inhalation devices, cortico-steroids in selected individuals, mechanical aids to respiration, breathing exercises, attention to upper respiratory problems, treatment of circulatory complications if present, can render many pa-



tients capable of functioning at an improved level. The prognosis for many patients is far less dismal than they are commonly led to believe.

But to return to the problem of the search for the earliest manifestations of emphysema. Can we depend upon the history to ferret out these very early cases? Perhaps—but to a limited extent only. How reliable is physical examination? Although wheezes can be detected in many individuals with emphysema, this finding is inconstant and difficult to interpret. An individual who breathes with en masse thoracic movements already has serious over-distention. Is routine laboratory data helpful? Hardly. Those individuals with an elevated packed cell volume are apt to have advanced disease if this laboratory deviation is due entirely to chronic bronchopulmonary disease. What about routine radiography of the chest? Here again, when “diagnostic” the disease process is advanced. Where does this leave us?

We have learned during the past several years that lung function testing has much to offer in this area. Thus far, unfortunately, conventional lung function testing equipment has been quite cumbersome and the individual tests time-consuming. Just as it was not feasible to utilize conventional X-ray equipment in mass surveys in the detection of tuberculosis, so it is impractical to utilize standard lung function testing equipment in the field. It is good news that a grant has been procured making it possible for members of the Department of Medicine at the Medical College of Alabama, cooperating with the Alabama Tuberculosis Association, to initiate a project which is designed to attack this problem of detecting the asymptomatic individual with incipient pulmonary emphysema.

Under the supervision of Dr. Ben V. Branscomb an electronic instrument has been devised making it possible to rapidly perform several lung function tests on a large number of people. These tests are done on a single exhalation. The individual being tested exhales forcibly into the apparatus, an electronic curve is projected, and this “loop” is

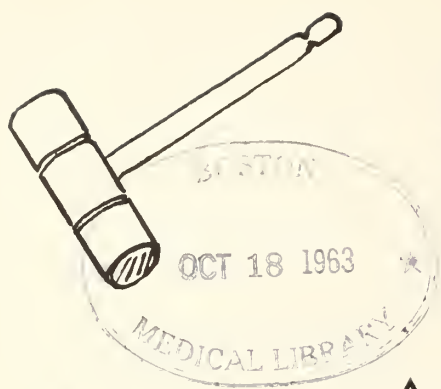
subsequently interpreted by trained physicians in order to separate normals from those who show suspected and definite ventilatory abnormalities. The apparatus has been tested in the laboratory and in the field and has been found to be dependable.

It is to be noted that this is simply a screening device. Physical examinations are not done on the individuals thus surveyed. At the time of lung function testing a photo-fluorogram of the chest is made. In due course each individual will receive a report which will be negative or positive for the presence of suspected chest disease—radiographic and/or physiological. Just as each individual with suspected radiological change has been advised to consult his personal physician for further investigation and treatment, so individuals with altered lung function will be encouraged to consult the physician of their choice for further evaluation.

A program is already in the making which will bring the emphysema case-finding unit into many counties of the State. Surveys will be conducted on selected population groups. As part of this study we hope to learn something about the demography of emphysema.

We urge the physicians of Alabama to provide support and encouragement of this research program. We hope that every physician in the State will experience a sense of individual participation in this large endeavor. Surely any physician who has seen a respiratory cripple due to emphysema should want to help in a project designed to find early emphysema. We hope sincerely that no one will be so misinformed as to regard this project in any way as an encroachment on the private practice of Medicine.

Even in its beginning stages this program has attracted attention across the nation. It is in truth a great challenge. Those of us who have worked in the field of tuberculosis control in Alabama during the past twenty years feel confident that the physicians of Alabama will rise to the challenge of supporting fully and enthusiastically this research program of such great promise.



# President's Page

A M P A C

## American Medical Political Action Committee

The Board of Trustees of the American Medical Association, following the recommendation of the Council of Legislative Activities, recognized the urgent need for an organization to provide physicians of this country with an effective, co-ordinated political action program. After much study of the federal and state laws it was decided to pattern our plan after the AFL-CIO Committee on Political Action (known as COPE), which has had a very formidable bearing on legislative affairs since it was conceived.

The American Medical Political Action Committee was appointed at the time of the Annual Meeting in New York in June 1961. The organizational meeting was held on August 10, 1961; and since that time a concerted effort has been made to establish State Political Action Committees to work with the national group.

AMPAC is a non-profit, voluntary, NON-PARTISAN, unincorporated political action committee, whose members are physicians, their wives, and others.

ALABAMA AMPAC (ALAPAC) has been approved by the State Board of Censors, and the President has appointed a state committee of nine physicians and one representative from the Woman's Auxiliary. By the time this has been published, the ALAPAC Committee will have had its organizational meeting.



*Wm. Sam Windham, M.D.*

The newly created Board of Directors is composed of:

S. Buford Word, M. D., Chairman .....	Birmingham
Sam W. Windham, M. D. ....	Dothan
Arthur A. Wood, M. D. ....	Mobile
John W. Webb, Jr., M. D. ....	Montgomery
John A. Edwards, M. D. ....	Anniston
E. E. Camp, M. D. ....	Huntsville
H. Gordon King, M. D. ....	Tuscaloosa
L. R. Lonnergan, Jr., M. D. ....	Gadsden
W. P. Stewart, M. D. ....	Troy
Mrs. George Penton (Auxiliary) .....	Montgomery

The term of office is for one year, and no member may serve for more than five years.

Alabama AMPAC (ALAPAC) has been formed on the same basic pattern as AMPAC was formed by the American Medical Association.

The purposes of this committee are:

1. To promote and strive for the improvement of government by encouraging and stimulating physicians and others to take a more active and effective part in governmental affairs.
2. To encourage physicians and others to understand the nature and actions of their government, as to important political issues and as to the records, officeholders, and candidates for elective office.
3. To assist physicians and others in organizing themselves for more effective political action and in carrying out their civic responsibilities.
4. To do any and all things necessary or desirable for the attainment of the purposes stated above.

Very shortly you will be called upon to join this very worthy organization. You should understand the political issues of the day and help to interest others with a similar viewpoint in an effective political action group. Since no organization can be impressive without adequate financial support, it will be necessary for physicians and their friends to make substantial contributions in support of our beliefs and our philosophy of government.

AMPAC is here to stay. The medical profession has learned, rather belatedly, that we must fight for the nation's health and welfare in the caucus rooms as well as in the examining rooms, in primaries as well as in the laboratory.

Political action has been forced upon us by those who believe in the welfare road to socialism, with eventual complete control by a federal bureaucracy. Our answer, political

education and action, will not immediately change a situation which has been prevalent for decades. Effectiveness will depend to a large extent upon our patience, endurance, and continuity of purpose.

The first edition of "Political Stethoscope," a newsletter for the information of AMPAC members, was released June 1962. The first "Annual AMPAC Day" was held in the Palmer House the day before the meeting of the AMA. The climax came with a \$25-a-plate banquet at which Senator John G. Tower of Texas, Rep. Harold B. McSween (D-La.) and President-Elect Edward R. Annis spoke of the necessity and the effectiveness of AMPAC. The meeting achieved a tremendous response.

POLITICAL EDUCATION deals with such matters as voter registration, effective precinct activity, and the citizens' role in government and politics. AMPAC works in this area.

POLITICAL ACTION calls for direct candidate support—financially or through the expenditure of time and effort—in the hope of getting him elected. AMPAC works in this area.

LEGISLATIVE ACTIVITY involves such matters as lobbying, the molding of public opinion, and support of or opposition to a specific piece of legislation. This is within the realm of your county, state, and national medical organizations.

Literature will be mailed to you shortly, if you have not already received it. It is YOUR MOVE NOW—you should make a contribution worthy of the dignity of your medical profession.

WILL YOU STAND UP AND BE COUNTED?

M. VAUN ADAMS, M. D.





## ASSOCIATION FORUM

### AMERICA'S HEALTH... OURS TO PRESERVE

MARGARET PARTLOW

Tuscaloosa

"No subject is more intimately connected with the happiness and prosperity of a people than the degree of public health they enjoy."

"The strength of our democracy and our country is really no greater in the final analysis than the well-being of our citizens."

These are some remarks made by two of our fellow Americans. The first was made in 1845 by Lemuel Shattuck of Boston; the second, over a century later in 1961 by the President of the United States, John F. Kennedy, also of Boston. However, it is not strange for a verity such as they have stated to be discovered anew and found applicable by each generation. Let us recognize the truth in the words of these men and understand how these statements concern us. Exactly what are the effects of good health on the strength and prosperity of any group? Of our nation?

People who feel good accomplish more; they are more interested in the world about them, more active in every way. Healthy people save money on hospital and doctors' bills, medicine, and working pay; they save time, not only by always being active, but by

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Miss Partlow, winner of this year's essay contest, is a graduate of Tuscaloosa High School. She was presented a check for \$100.00 at the annual session in April when she read her paper to the membership.



adding years to their lives. Life should also be more enjoyable for a healthy person who has the privilege of greeting each day with a sound mind and body. A group who feels this way is naturally one step ahead of a group weakened by unhealthy practices or conditions.

Since health is a slippery term, hard to define, its effects on people cannot always be grouped and numbered, for no one knows how many lives and situations are affected indirectly every day by possession of it or by lack of it. Aside from staggering number of deaths caused yearly by killers such as heart diseases and cancer and ignoring the tremendous number of people in homes for

the aged who spend their days in monotony or pain, think of the man-hours lost daily by those too sick to work, the people who suffer minor but painful ailments who must drag through their work anyway, the student hours wasted because so many are not cared for well enough at home to keep their minds alert, and the many other things unable to be listed in statistical charts.

Then consider the happiness of those who have won battles against serious diseases, and those who live, aware and adventurous, with healthy minds and bodies to mature into useful citizens. All these are examples of the results of good or bad physical condition.

What would it mean to have our nation filled with only healthy people? It would mean less unemployment, a better prepared armed force, and more national spirit, to mention a few things. It would also mean that we Americans had finally realized the value of the human body, and the value of health as a gift, to preserve and share. Let us repeat that: "... health ... a gift, to preserve and share." We may agree that health is a gift, a precious one—but do we preserve and share it? Why should we?

First, we are Americans. We have profited much from other Americans, dedicated to the study and practice of ways to prevent ill health and preserve good health. Others can profit from our efforts to do the same. The profits in working toward a healthy nation have been enumerated.

Second, although we can scold ourselves for not being in good shape, those who have been unfortunate enough to have incurable diseases and who have neither the means nor the know-how to help themselves cannot be so reproved. They must be helped. Here is where our ability to aid becomes our responsibility.

Third, great advances have been made in nearly all areas of medicine during the century; most of the old superstitions and fallacies concerning diseases, physical and mental, have been dispelled in our country. Therefore it is right that we live in keeping with the marvelous discoveries of our time. We

should not lag behind in the smaller, personal aspects of the care of Americans.

There is a way for every willing person to contribute to the establishment and preservation of good health in America. An awareness and knowledge of the advantages and necessity of healthful living must come first.

In a book on nutrition by Adelle Davis, the title of a chapter is, "Is Our National Health on the Down-grade?" The author of the book points out that ever since the beginning of the Industrial Revolution, when people began moving from farm to city, and the processing of foods began, our national health began to deteriorate. More modern problems are air and water pollution, new mental conditions due to a quickened pace of living, and the difficulties before-mentioned concerning those who have had years added to their lives, but who must be nursed through them. Here are situations where the inauguration of healthful practices must come soon.

Of all the ways to initiate this forward movement, the easiest and most effective is the individual practice of healthful living. By being clean, eating properly, and keeping one's body well through check-ups and personal care, one can be a walking example of the fruits good health yields. Under one's influence are family, friends, and co-workers who can pick up good habits and spread them.

Information on the ways to improve and keep good health is available from many sources, such as doctors, health clinics, school nurses, or libraries. Each person should try to get some knowledge of this sort. The time spent will be well used. Health education on a scale larger than this personal basis must also be promoted, for there is a need for more doctors, nurses, dentists, and other medical officials. We can help this situation through support of the government programs already active in training medical students and assisting the institutes, seminars, and medical schools in our country.

Look into the area in which you live. Are there adequate medical facilities, enough hospital beds, and a good local health service?

Is some section of your city unwholesome? Are preventive health measures, such as fluoridation of public water supplies and distribution of new vaccines, in use? Find the answers to these questions and begin improving your own city. In this way you can open one more doorway to a healthier America.

When you have worked on a local scale, boost your successful health program state-wise and nationally. First find out what is already being done, and support the actions you feel are beneficial.

A great number of bills concerning medicine were introduced in the first session of the 87th Congress. Action was taken on a \$230,000,000 omnibus bill increasing federal aid to community health services, but mainly 1961 was a year of hearings. The year 1962 will be one of action in this area, and it will offer a wonderful opportunity to those truly concerned with our nation's health.

Improve it, promote it, instill it, support it! Back America by preserving her health—a natural resource which will never run out if we take care of it.

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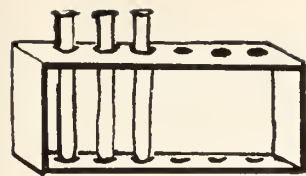
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## TETANUS NEONATORUM IN ALABAMA

HAROLD KLINGLER, A. B., M. D.

Tetanus neonatorum, strictly a preventable disease, continues to reap a mortality toll in Alabama of several infants each year. In 1958, a total of ten cases was reported, all of which expired. These infants died at ages ranging from two to 15 days. The geographical distribution of these cases seems significant in only one respect. They occur in areas where midwives are active. In certain areas of the state 95 per cent of the babies are delivered by midwives. Of the ten deaths recorded in 1958, seven were delivered by midwives and three by physicians. There were no hospital deliveries in this series. Statistically and unfortunately, Alabama rates with the few states where tetanus neonatorum mortality is highest. Indeed, but few states report any mortality due to this disease.

During World War II, there was only one soldier who developed tetanus as a result of battle wounds; and during the Korean War, from June 1950 through December 1953, there was neither mortality nor morbidity reported due to tetanus among Navy and Marine personnel.<sup>1</sup>

Dr. Klingler is director of the Bureau of Maternal and Child Health of the Alabama State Department of Health. He is a diplomate of the American Board of Obstetrics and Gynecology.

A movement is afoot to bring more maternity patients under the care of physicians through the application of "The Sylacauga, Alabama, Plan for the Delivery of Indigent Maternity Cases,"<sup>2</sup> and thereby eliminate the practice of medicine by "granny" midwives, who in 1959 delivered 12,763 Alabama babies of a total of approximately 83,000 babies born in the state during that year.<sup>3</sup> The Bureau of Maternal and Child Health is, at present, offering a 24-hour period of hospitalization to medically indigent maternity patients for their delivery in a few selected areas of the state.

It would seem possible to stamp out tetanus neonatorum completely through a program devised that would sufficiently encourage all mothers to obtain hospital delivery under the care of a physician. It is also the policy and recommendation of the Bureau of Maternal and Child Health that all prenatal patients be immunized against tetanus. Tetanus antibodies pass the placental barrier, thereby offering a passive immunity to the new-born infant.

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1. Ref. Editorial, Alabama General Practitioner, Vol. 10, No. 5, May 1960, pp.3.

2. Reprints of this article available from Bureau of Maternal and Child Health, Alabama Department of Health, upon request.

3. Figures obtained from Bureau of Vital Statistics, Alabama Department of Health.

# DEPARTMENT OF HEALTH

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

### SPECIMENS EXAMINED

June 1962

Examinations for malaria .....	20
Examinations for diphtheria bacilli and Vincent's .....	9
Agglutination tests.....	510
Typhoid cultures (Blood, feces, urine and other).....	390
Brucella cultures.....	5
Examinations for intestinal parasites.....	2,707
Darkfield examinations.....	8
Serologic tests for syphilis (blood and spinal fluid).....	24,795
Examinations for gonococci.....	1,919
Complement fixation tests.....	61
Examinations for tubercle bacilli.....	3,812
Examinations for Negri bodies (smears and animal inoculations).....	270
Water examinations.....	2,814
Milk and dairy products examinations.....	4,385
Miscellaneous examinations.....	5,009
<b>Total.....</b>	<b>46,714</b>

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## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

### CURRENT MORBIDITY STATISTICS

1962

	May	June	*E. E. June
Tuberculosis .....	98	136	210
Syphilis .....	129	127	157
Gonorrhea .....	292	310	305
Chancroid .....	2	3	5
Typhoid fever .....	2	1	3
Undulant fever.....	2	1	1
Amebic dysentery .....	3	17	2
Scarlet fever and strep. throat .....	59	16	37
Diphtheria .....	0	0	2
Whooping cough .....	3	10	55
Meningitis .....	4	2	9
Tularemia .....	0	0	0
Tetanus .....	2	2	1
Poliomyelitis .....	1	1	5
Encephalitis .....	0	0	1
Smallpox .....	0	0	0
Measles .....	421	175	362
Chickenpox .....	228	38	71
Mumps .....	68	28	68
Infectious hepatitis.....	119	79	27
Typhus fever.....	0	1	1
Malaria .....	0	0	0
Cancer .....	728	878	505
Pellagra .....	2	3	0
Rheumatic fever .....	10	14	8
Rheumatic heart .....	107	42	16
Influenza .....	87	48	65
Pneumonia .....	277	203	162
Rabies—Human cases .....	0	0	0
Pos. animal heads.....	1	8	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

### PROVISIONAL BIRTH AND DEATH STATISTICS, AND COMPARATIVE DATA, MARCH 1962

Live Births Deaths Causes of Death	Number Registered During March 1962			Rates* (Annual Basis)		
	Total	White	Non-White	1962	1961	1960
Live Births .....	6,714	4,101	2,613	23.7	23.2	23.8
Deaths .....	2,546	1,631	915	9.0	8.5	10.6
Fetal Deaths .....	111	53	58	16.3	22.2	20.2
Infant Deaths—						
under one month.....	133	79	54	19.8	17.0	19.2
under one year .....	217	110	107	32.3	28.1	31.9
Maternal Deaths.....	4		4	5.9	9.0	4.4
<b>Causes of Death</b>						
Tuberculosis, 001-019.....	22	10	12	7.8	7.1	8.7
Syphilis, 020-029 .....	5		5	1.8	2.5	1.1
Dysentery, 045-048 .....	1		1	0.4		
Diphtheria, 055.....					0.4	0.4
Whooping cough, 056 .....	1	1		0.4		
Meningococcal infections, 057 .....	2	1	1	0.7	0.4	0.7
Poliomyelitis, 080, 081 .....						
Measles, 085 .....	2	1	1	0.7	1.1	1.4
Malignant neoplasms, 140-205.....	305	208	97	107.6	96.9	108.6
Diabetes mellitus, 260.....	37	23	14	13.0	15.3	18.0
Pellagra, 281 .....					0.4	
Vascular lesions of central nervous system, 330-334 .....	344	207	137	121.3	118.6	161.3
Rheumatic fever, 400-402 .....	2	2		0.7	0.7	1.1
Diseases of the heart, 410-443 .....	908	627	281	320.2	287.8	351.8
Hypertension with heart disease, 440-443 .....	138	64	74	48.7	55.6	68.2
Diseases of the arteries, 450-456.....	67	44	23	23.6	19.9	26.0
Influenza, 480-483 .....	18	12	6	6.3	5.3	37.5
Pneumonia, all forms, 490-493 .....	92	45	47	32.4	34.6	45.8
Bronchitis, 500-502 .....	9	6	3	3.2	0.4	4.0
Appendicitis, 550-553 .....	2		2	0.7	1.8	1.4
Intestinal obstruction and hernia, 560, 561, 570 .....	13	7	6	4.6	2.1	3.6
Gastro-enteritis and colitis, under 2, 571, 0, 764 .....	6	3	3	2.1	1.1	4.0
Cirrhosis of liver, 581 .....	9	7	2	3.2	6.1	4.7
Diseases of pregnancy and childbirth, 640-689 .....	4		4	5.9	9.0	4.4
Congenital malformations, 750-759 .....	31	22	9	4.6	4.8	4.2
Immaturity at birth, 774-776 .....	29	15	14	4.3	3.7	6.7
Accidents, total, 800-962 .....	162	114	48	57.1	52.7	58.5
Motor vehicle accidents, 810-835, 960.....	69	59	10	24.3	24.2	22.0
All other defined causes .....	369	229	140	130.1	126.1	141.1
Ill-defined and unknown causes, 780-793, 795 .....	106	47	59	37.4	43.1	50.5

\*Rates: Birth and death—per 1,000 population

Infant deaths—per 1,000 live births

Fetal deaths—per 1,000 deliveries

Maternal deaths—per 10,000 deliveries

Deaths from specified causes—per 100,000 population

## DEPARTMENT OF HEALTH

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH  
STATISTICS, AND COMPARATIVE DATA,  
APRIL 1962

Live Births Deaths Causes of Death	Number Registered During April 1962			Rates* (Annual Basis)		
	Total	White	Non- White	1962	1961	1960
Live Births	5,927	3,753	2,174	21.6	21.7	21.8
Deaths	2,634	1,659	975	9.6	8.5	8.8
Fetal Deaths	119	46	73	19.7	21.2	21.9
Infant Deaths— under one month	115	63	52	19.4	22.4	20.2
under one year	180	81	99	30.4	32.2	30.8
Maternal Deaths	5	1	4	8.3	8.3	6.7
<b>Causes of Death</b>						
Tuberculosis, 001-019	29	21	8	10.6	9.9	8.6
Syphilis, 020-029	3		3	1.1	2.6	1.1
Dysentery, 045-048	1	1		0.4		0.4
Diphtheria, 055						
Whooping cough, 056						0.4
Meningococcal infections, 057	2	2		0.7	0.4	0.4
Poliomyelitis, 080, 081						
Measles, 085	4		4	1.5	0.7	
Malignant neoplasms, 140-205	311	221	90	113.3	116.3	116.3
Diabetes mellitus, 260	42	28	14	15.3	11.4	10.8
Pellagra, 281	1		1	0.4		
Vascular lesions of central nervous system, 330-334	353	216	137	128.6	124.4	107.8
Rheumatic fever, 400-402					1.5	1.5
Diseases of the heart, 410-443	928	633	295	338.2	287.1	292.7
Hypertension with heart disease, 440-443	144	60	84	52.5	71.0	51.8
Diseases of the arteries, 450-456	65	39	26	23.7	20.6	19.0
Influenza, 480-483	14	8	6	5.1	3.7	15.3
Pneumonia, all forms, 490-493	88	48	40	32.1	18.4	35.8
Bronchitis, 500-502	6	4	2	2.2	2.2	3.4
Appendicitis, 550-553	3	1	2	1.1		1.1
Intestinal obstruction and hernia, 560, 561, 570	14	8	6	5.1	4.0	3.4
Gastro-enteritis and colitis, under 2, 571, 0, 764	7	2	5	2.6	2.2	2.6
Cirrhosis of liver, 581	17	11	6	6.2	3.7	5.6
Diseases of pregnancy and childbirth, 640-689	5	1	4	8.3	8.3	6.7
Congenital malformations, 750-759	30	20	10	5.1	3.7	4.1
Immaturity at birth, 774-776	30	11	19	5.1	6.4	6.2
Accidents, total, 800-962	183	112	71	66.7	59.6	50.0
Motor vehicle accidents, 810-835, 960	84	57	27	30.6	26.1	18.6
All other defined causes	384	228	156	139.9	54.1	140.9
Ill-defined and unknown causes, 780-793, 795	113	43	70	41.2	44.2	37.3

\*Rates—Birth and death—per 1,000 population  
 Infant deaths—per 1,000 live births  
 Fetal deaths—per 1,000 deliveries  
 Maternal deaths—per 10,000 deliveries  
 Deaths from specified causes—per 100,000 population

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH  
STATISTICS, AND COMPARATIVE DATA,  
MAY 1962

Live Births Deaths Causes of Death	Number Registered During May 1962			Rates* (Annual Basis)		
	Total	White	Non- White	1962	1961	1960
Live Births	6,070	3,289	2,241	21.4	21.6	21.6
Deaths	2,539	1,627	912	9.0	8.5	9.1
Fetal Deaths	142	62	80	22.9	21.6	22.4
Infant Deaths— under one month	132	78	54	21.7	19.4	23.9
under one year	187	94	93	30.8	30.0	35.8
Maternal Deaths	5		5	8.0	3.2	11.4
<b>Causes of Death</b>						
Tuberculosis, 001-019	18	6	12	6.3	10.3	7.9
Syphilis, 020-029	1	1		0.4	2.1	1.4
Dysentery, 045-048						
Diphtheria, 055						
Whooping cough, 056					0.7	0.7
Meningococcal infections, 057	2	2		0.7		0.4
Poliomyelitis, 080, 081						
Measles, 085	1	1		0.4	0.7	1.1
Malignant neoplasms, 140-205	335	237	98	118.1	117.6	113.3
Diabetes mellitus, 260	41	30	11	14.5	12.8	15.5
Pellagra, 281	2	2		0.7	0.4	
Vascular lesions of central nervous system, 330-334	363	226	137	128.0	113.6	123.4
Rheumatic fever, 400-402					0.7	1.8
Diseases of the heart, 410-443	879	592	287	310.0	292.1	316.1
Hypertension with heart disease, 440-443	151	62	89	53.2	51.6	61.7
Diseases of the arteries, 450-456	79	53	26	27.9	18.2	17.7
Influenza, 480-483	7	2	5	2.5	3.2	4.0
Pneumonia, all forms, 490-493	63	31	32	22.2	24.6	26.3
Bronchitis, 500-502	5	4	1	1.8	1.4	3.6
Appendicitis, 550-553	1		1	0.4	1.1	1.1
Intestinal obstruction and hernia, 560, 561, 570	18	10	8	6.3	6.4	4.7
Gastro-enteritis and colitis, under 2, 571, 0, 764	7		7	2.5	2.8	2.2
Cirrhosis of liver, 581	23	15	8	8.1	6.4	6.1
Diseases of pregnancy and childbirth, 640-689	5		5	8.0	3.2	11.4
Congenital malformations, 750-759	21	11	10	3.5	4.6	4.5
Immaturity at birth, 774-776	39	18	21	6.4	6.7	8.4
Accidents, total, 800-962	169	116	53	59.6	59.8	62.8
Motor vehicle accidents, 810-835, 960	72	55	17	25.4	23.5	35.7
All other defined causes	371	231	140	130.8	118.6	132.1
Ill-defined and unknown causes, 780-793, 795	89	39	50	31.4	33.8	40.8

\*Rates—Birth and death—per 1,000 population  
 Infant deaths—per 1,000 live births  
 Fetal deaths—per 1,000 deliveries  
 Maternal deaths—per 10,000 deliveries  
 Deaths from specified causes—per 100,000 population





## BOOK REVIEWS

**Financing Medical Care—An Appraisal of Foreign Programs.** Edited by Helmut Schoeck. Cloth. Price, \$5.50. Pp. 314. The Caxton Printers, Ltd., Caldwell, Idaho. 1962.

This book is highly recommended for anyone interested in the philosophical fight which is being waged in the halls of the legislature and in the press. It will be of great help to those who feel that the subject is being debated in a vacuum because of a lack of facts. As was pointed out in the book, very few factual, detailed reports on the foreign medical systems as they actually work reach America through the press. Mr. Schoeck has invited fifteen experts abroad to report on medical systems as they exist today in Britain, France, Germany, Austria, Sweden, Switzerland, and Australia. These experts are economists, actuaries, political analysts, physicians, medical researchers, statesmen, and one theologian. The reports by these people show the unexpected effects of the compulsory principle in health insurance and national health schemes.

As stated by Mr. Schoeck, the book "attempts, primarily, to analyze the performance of and popular reactions to compulsory health insurance under conditions comparable to those in the United States." For example, the section on Great Britain is broken into four parts. The introduction is written by Mr. Schoeck. Part two is "Shortages as Seen by a Journalist." Part three is entitled "An Economist Considers Other Alternatives." Part four is "A Surgeon Evaluates The Hospital System." Between them, a rather comprehensive picture is presented. The other six countries are discussed in a like manner, though not as lengthily as is Great Britain.

This is an important book in the field of medical care. Mr. Schoeck is associate professor of sociology at Emory University, and his interests are focused on the problems of the modern welfare state and the concomitant human behavior. The book does not attempt to offer easy solutions to the many complex problems facing us today, but it does present logical answers to many of the broad assumptions that are extensively used by proponents of nationalized medicine. These assumptions have become assertions, but they are based on premises that need very close scrutiny. This book makes a long step in that direction.

W. A. Dozier, Jr.

**Common Sense About Psychoanalysis.** By Rudolph Wittenberg. Cloth. Price, \$3.95. Pp. 216. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, N. Y. 1962.

The author of this book is a practicing psychoanalyst, and his purpose is to clear up some misconceptions about psychoanalysis as well as to answer certain questions which have arisen constantly since he has been practicing. Some of the questions he undertakes to answer are: What is psychoanalysis? What goes on during an analysis? How long does an analysis usually take? Why does it cost so much? Should everyone have an analysis if he can? What should an analysis do for a person? How does a person get to be a psychoanalyst? These questions, Dr. Wittenberg answers quite well and quite frankly.

To a reader untrained in the field of psychoanalysis, the chapters dealing with the patient in analysis, the patient and his family, and analytic therapy with children and youth were perhaps the most interesting. Another interesting chapter dealt with other forms of psychotherapy. In this latter one, Dr. Wittenberg distinguishes between psychoanalysis and the work of psychiatrists, psychologists, clinical groups, and the like. The last chapter, quite logically, deals with the ending of analysis.

Psychoanalysis, since its inception, has certainly been a force in the lives of all social animals. Also, most people have long since decided for or against this type of therapy as a means of doing any real good. Since this reader recognized his own prejudices as well as his own indecision on certain questions relating to the field of psychoanalysis, the reading of the book was most interesting. From it has been derived a somewhat clearer understanding of the whole field of psychotherapy, although the reading of the book did create a number of unanswered questions.

In most instances, the book is clear and concise; and each point made by the author is illustrated with the relation of a possible case. The author has not attempted to write a textbook on psychoanalysis, and he has handled quite well the field of inquiry that he set for himself. The book might possibly be helpful to a physician when recommending that a patient receive psychotherapy.

W. A. Dozier, Jr.

**Blood Diseases of Infancy and Childhood.** By Carl H. Smith, M. A., M. E. Price, \$17.00. Pp. 572. The C. V. Mosby Company, St. Louis, Mo. 1960.

This book represents a classic in the pediatric field. It supplies a long awaited need and separates into one small volume an extremely comprehensive treatise of a very wide variety of diseases, either primarily related to the blood or with manifestations commonly regarded in the hematologic field. It is written by an author who is not only well versed in his field but who has the highest regard of his colleagues; yet, he is able to relate to the average reader an understanding of basic problems of the blood, their clinical consideration, including reasonable diagnostic and therapeutic methods.

While it is stated that the purpose is to present the essential of hematology in a concise form for the medical student and practitioner and to give a background of normal development of infancy and childhood, this book can serve as a very practical and necessary volume for frequent consultation for the practitioner who treats a fair volume of children's diseases. While it is, also, stated that this text is not intended to supplant larger volumes and is intended as a companion volume, it seems absolutely necessary that one have this volume readily available for the peculiar details of hematology as related to the infant and child. This book is commended particularly in that it carries out what the author intended to do—that is, to make possible the detection of the common blood disorders by every medical practitioner utilizing history, physical examination, and simple techniques. In addition, this excellent text has a number of very valuable footnotes relating to manufacturers or suppliers of various necessary items utilized either in diagnosis or treatment. In addition, definite positive statements are made by an authority who does not leave difficult decisions with a less well-initiated reader.

The book is up to date, the references likewise; and in addition to the common well-recognized syndromes many other less well-recognized ones (by the average practitioner) are treated with a carefully chosen bibliography to support each should further reading be necessary.

The book is of reasonable size (weighs less than three and one-half pounds) and is divided into 27 chapters (each of which is supported in the areas of basic consideration, diagnosis, and treatment) and a most complete bibliography for each chapter with a minimum of 23 and a maximum of 208 references for each of the various chapters. In addition, there is a valuable author index, as well as the usual subject index.

This is one of the most valuable texts recently made available in the realm of pediatric texts. While it is of specialized nature, its value will be distinct to the physician who treats infants and childhood diseases. It represents the result of tremendous industry and consideration by the author.

Harry C. Shirkey, M. D., Director  
The Children's Hospital  
Birmingham, Alabama

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**The Dynasty.** By Charles Knickerbocker, M. D. Cloth. Price, \$4.50. Pp. 416. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, New York. 1962.

On the dust cover to the book, the Dynasty is called "A Medical Novel." Dr. Knickerbocker is, to this reviewer, a new author but a good one. The story is fast moving and interesting. John Crest is taken from his first day in medical school on through a number of years in private practice. The conflict lies between Dr. Crest and a powerful dynastical family in the area where he practices. The story, however, was of secondary interest to this reader.

Dr. Knickerbocker, from his position as a practitioner of medicine, interlaces his story with medical advancements from 1931 up to the present day. He points out the changes in the practice of medicine and the problems that these changes have created. He is concerned with medical ethics, the doctor-patient relationship, and the ultimate road that will be traveled by men in medicine in this changing society of ours. The novel settles no real questions; but it is entertaining, light reading.

W. L. Smith, M. D.

# *The Woman's Auxiliary*

"Aim for Excellence in Achievement." With these words we were challenged on June 27 when Mrs. William G. Thuss was installed as president of the Woman's Auxiliary to the American Medical Association. This installation climaxed a wonderful meeting for the Alabama members. We always come first in the roll call, but not since 1925 when Mrs. Seale Harris became the second National Auxiliary president have we been so near to first in importance. Illinois alone came ahead being the native state of the charming Mrs. Harlan English, president, who presented the gavel to Mrs. Thuss.

Louise Benedict Thuss richly deserves this honor which has come to her. She is a native of Tennessee and received her education there, graduating from Ward Belmont and Vanderbilt University. Since her marriage to Dr. William Getz Thuss she has resided in Birmingham where she is active in civic and cultural affairs as well as those of medicine. Mrs. Thuss has served the Auxiliary well on the county, state, and national levels. She is past president of her county and state and served as chairman of several national committees and as first vice-president before her election to president-elect. There are three Thuss sons. Two are physicians in practice with their father, and the other lives in New Orleans.

On Wednesday afternoon the Medical Association and its Auxiliary gave a reception honoring Mrs. Thuss, in the Pick-Congress Hotel. Dr. Thuss and one son, Dr. Chauncey B. Thuss, with his lovely wife were present for the occasion. Representing the Association as host was Dr. M. Vaun Adams, president. As hostesses for the Auxiliary were



**MRS. JOHN KIMMEY**

Mrs. M. Vaun Adams, Mrs. John Chenault, Mrs. John Morris, Mrs. W. R. Sutton, Mrs. Ira Patton, Mrs. Wm. Noble, Mrs. James Guin, Jr., and Mrs. John M. Kimmey. They were assisted by Mrs. Len Burroughs and Mrs. Brison Robinson. A large number of guests called to congratulate Mrs. Thuss and wish her well. We look forward to a most successful year under her capable leadership.

Among the tokens of congratulation received by Mrs. Thuss were gifts from the Jefferson County Auxiliary, the State Medical Association, and The Woman's Auxiliary to the State Medical Association.

There is much more of interest to write, but again my space is gone. Won't you send your name and address with one dollar to Mrs. John F. Holley for a subscription to the Bulletin? An account of all that happened will be in it. Join us, and let's work together to make the year a success. We do have fun.



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## Experience With A New Antitussive Agent In Severe Pulmonary Conditions

JOSEPH FREIDINGER, M. D.

Birmingham, Alabama

The control of cough has been a medical desideratum since the earliest times. The natural and synthetic derivatives of opium serve this purpose well and remain the most widely used antitussive agents;<sup>1</sup> indeed, it has been estimated that more than 25 per cent of all the narcotics legitimately dispensed in the United States are incorporated into cough mixtures.<sup>1</sup>

Morphine and codeine are the most important of the narcotic antitussives, but even heroin is used for this purpose in many parts of the world.<sup>1</sup> Effective as these drugs are, their administration carries with it the danger of addiction,<sup>1-4</sup> which is all the more to be avoided in persons already debilitated by disease.

Much investigative work has been devoted to the development of effective non-narcotic antitussives;<sup>1,5,6</sup> this effort has produced several drugs that act upon the cough-controlling portion of the medulla, decreasing its sensitivity.<sup>1,6,7</sup> Among the most promising of these new drugs is pipazethate.<sup>5-7</sup> This compound has been found, in animal and clinical studies, to be effective in the control of both naturally occurring and artificially induced cough. It was decided to observe the action of this new drug in a group of patients who were hospitalized because of severe pulmonary conditions.

### Materials and Methods

Twenty patients with grave pulmonary conditions participated in the clinical trial reported here (Table I). Nineteen of them were women, 10 Caucasians and 9 Negroes, their ages ranging from 17 to 70 years, with an average of 45.5 years. One of these wom-

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Dr. Freidinger is a graduate of Magyar Kiralyi Pazmany Petrus Tudomanyegyetem Orvosi Fakultasa in Budapest, Hungary, and is affiliated with the Jefferson Tuberculosis Sanatorium in Birmingham, Alabama.

TABLE I  
ANTITUSSIVE EFFECTIVENESS OF PIPAZETHATE IN 20 PATIENTS WITH SEVERE PULMONARY CONDITIONS

Case No.	Age (Years)	Sex	Color	Modality	Antitussive Effectiveness	Side Effects	Comment
1	55	F	W	Anal Oral	Very good Good	None Some nausea	Nausea controlled with dimenhydrinate; codeine sharply reduced.
2	16	F	W	Anal Oral	Very good Good	None Nausea	Cough controlled by 20-mg. suppository 4 times daily, by oral tablet 6 times daily.
3	24	M	N	Anal Oral	Good Fair	None Nausea	Codeine needed with tablets; no difference noted between 20-mg. and 40-mg. suppositories.
4	40	F	W	Anal Oral	Good Fair	None Some nausea	Nausea controlled with dimenhydrinate; codeine withdrawn completely.
5	41	F	N	Anal Oral	Good Good	None None	Codeine withdrawn completely.
6	22	F	N	Oral	Good	None	Codeine withdrawn completely.
7	15	F	N	Oral	Good	Some nausea	Codeine withdrawn completely.
8	44	F	N	Oral	Good	None	First, codeine, then pipazethate withdrawn completely.
9	34	F	N	Oral	Good	Some nausea	Codeine withdrawn completely.
10	33	F	N	Oral	Good	Some nausea	Codeine withdrawn completely.
11	36	M	W	Oral	Good	None	Codeine almost completely withdrawn.
12	35	F	W	Oral	Good	Slight tachycardia	Codeine almost completely withdrawn.
13	67	M	W	Oral	Good	None	Cough controlled immediately.
14	70	F	W	Oral	Good	None	Codeine sharply reduced.
15	27	F	N	Oral	Good	None	Cough controlled immediately.
16	40	F	N	Oral	Good	None	Cough controlled immediately.
17	75	F	W	Oral	Good	None	Cough controlled immediately.
18	46	F	W	Oral	Fair	Nausea, heart trouble	Pipazethate withdrawn.
19	26	F	W	Oral	Fair	Some nausea	Nausea controlled with dimenhydrinate; no differences seen between 20-mg. and 40-mg. suppositories; pipazethate withdrawn when patient began severe bleeding.
20	67	F	W	Oral	Unsatisfactory	Nausea, tachycardia	Tachycardia may have been caused by excitement due to cough.

\*Eighteen of these 20 patients had advanced, active, pulmonary tuberculosis, one (case No. 13) had a carcinoma of the lung, and one (case No. 20) had a severe chronic bronchitis.

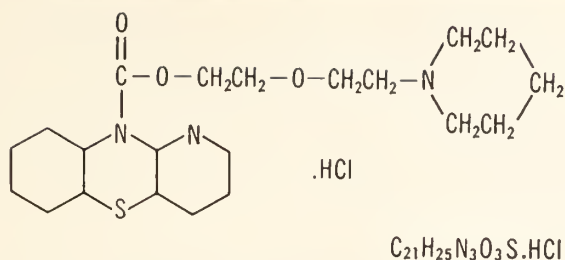


Figure 1. Molecular configuration of pipazethate (Theratuss®).

en had a demonstrable carcinoma of the lung, and another had a severe chronic bronchitis. The remaining 17 women all presented advanced pulmonary tuberculosis, as did the single male patient, a 36-year-old white man. All of these patients were treated while hospitalized at this institution. The control of cough was a prime therapeutic objective in every case.

#### Medication

The non-narcotic antitussive agent that was being investigated in the present study was pipazethate (Theratuss®\*), which is a piperidinoethoxyethyl compound related to the pyridobenzothiazines; the structure of its molecule is shown in Figure 1. Prime, who administered the drug orally to a series of healthy subjects to control cough induced artificially by means of an acetylcholine aerosol, found that the antitussive efficacy of this new drug is at least as great as that of codeine.<sup>7</sup> The medication was supplied in the form of tablets for oral administration, in 10- and 20-mg. strengths, and in anal suppositories of 20-mg. and 40-mg. strengths. All of these modalities were used in the study reported here.

All of these patients presented pathological pulmonary conditions that required the administration of antitussive medication; most of them had been receiving codeine for this purpose. In such cases, the procedure

used was to attempt the gradual substitution of pipazethate for codeine, if possible withdrawing the narcotic entirely while maintaining the antitussive effect that had been produced by it. In the remaining cases, pipazethate was the original antitussive medication. All other medications, such as anti-tubercular drugs, were continued.

#### Results

The antitussive efficacy of pipazethate in the 20 cases under study is shown in Table I. It can be seen that satisfactory to excellent results were achieved in 17 of the 20 cases, and that even better results were achieved with the anal suppositories than with the orally administered tablets.

Most of the patients in the present series had been receiving codeine (as much as 1 grain each 4 hours) to control cough. In every case in which the administration of pipazethate was continued it was possible to reduce the dosage of the narcotic sharply; in several cases codeine was withdrawn entirely (Table I). Pipazethate was withdrawn in 3 cases, as discussed below.

#### Comment

Nausea was the most frequently encountered side effect (Table I). This characteristically occurred during the first days of treatment, and only when pipazethate was administered orally. In three such cases this reaction was controlled by the concomitant administration of dimenhydrinate (Dramamine®). With the anal suppositories, on the other hand, neither nausea nor any other adverse side effect was observed.

Circulatory symptoms appeared in three cases. In case No. 12 and case No. 20 there was tachycardia, but this effect was probably of nervous origin in the first of these. While the administration of pipazethate was discontinued in this case, it was because of the unsatisfactory antitussive effect of the drug, and not because of the irregularly tachycardic pulse. In case No. 18, the tachycardia was minor, the antitussive effect was

\*Theratuss® was supplied for this study by M. I. Hewitt, M. D., of The Squibb Institute for Medical Research, New Brunswick, New Jersey.



considered good, and the patient was successfully transferred entirely from codeine to pipazethate.

In case No. 18, an electrocardiogram showed sinus tachycardia that was interpreted as right ventricular enlargement. The pulse rate at that time was from 120 to 135. Pipazethate was withdrawn, codeine was re-instituted, and the patient was digitalized. In the author's opinion, this heart condition was a result of the patient's long-standing pulmonary condition and would have developed had pipazethate not been administered.

Pipazethate also was withdrawn from patient No. 19 when serious hemorrhage developed, and codeine and morphine were re-instituted. The antitussive effect of the pipazethate anal suppositories was rated as excellent in this case, however.

While the number of patients in the present series is too small to permit of generalization, it is perhaps of interest that, when the anal suppositories were used, there was no apparently greater antitussive effect with the 40-mg. modality than with the 20-mg. modality. A larger scale investigation of this observation might be of considerable interest.

The anal suppositories were highly acceptable to the patients who received them; indeed, they would constantly request them. There were no complaints nor any symptoms of toxicity.

Pipazethate controlled cough better than any other antitussive agent except codeine, and there was no addiction.

### Summary

Twenty patients with severe pulmonary conditions (advanced tuberculosis in 18 cases, chronic bronchitis in one case, and lung cancer in one case) that required the administration of an antitussive agent were given pipazethate (Theratuss<sup>®</sup>) in oral tablet or

anal suppository form. Most of these patients had been receiving codeine for this purpose. Antitussive results rated as good or excellent were achieved in 17 cases and fair results in two cases. There was but a single case in which the antitussive effectiveness of pipazethate was considered unsatisfactory.

In the patients who had been receiving codeine, the gradual substitution of pipazethate permitted the reduction of dosage of the narcotic in every case; in seven of these cases, codeine was withdrawn entirely, and in two other cases it was withdrawn almost entirely. In no case was there any addiction to pipazethate.

Nausea was associated with the administration of the oral tablets in 12 cases, but this reaction was usually mild, occurring when the drug was first used, and in three cases it was controlled by the concomitant administration of dimenhydrinate. In three cases, the administration of the oral tablets was associated with tachycardia, but no adverse side effects were observed when the anal suppositories were used. The suppositories were very well accepted by the patients, who would frequently request them.

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# Diabetes Mellitus

## The "New Look" In Therapy

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Few would challenge the statement that more progress has been made in the treatment of diabetes in the past forty-one years than existed heretofore since the dawn of medical science. While this is indeed most reassuring, the clinician's dream of ultimate perfect control, not to mention a cure, would appear to be a very long way off. Until scientific achievement heralds that great day, the proper management of the diabetic patient constitutes an enduring challenge to sound clinical judgment, experience, and common sense. Optimal management remains a highly individualized process, for in few other chronic diseases do patients respond more heterogeneously to conventional therapy.

The Insulin Era, seasoned with forty-one years' therapeutic triumph and devoid of a single instance of insulin "toxicity" (save hypoglycemic shock) is far from being superseded by the Sulfonylurea-Biguanide Era since therapeutic application of the latter agents is considerably narrower than initially visualized and their numerous so-called side effects and failures continue to plague

physician and patient alike. Also, whereas insulin has been inexpertly utilized in the past and present, this is quite obviously more true in the case of oral antidiabetic agents, enhanced by the almost evil convenience of swallowing a pill. In fact, to the sincere analyst, it does not appear far-fetched to characterize currently available oral drugs as more valuable research tools than therapeutic agents, so evident in Krall's remark that phenformin (DBI®),\* for example, should be regarded more as a "tactical than an operational weapon in the diabetic armamentarium."<sup>1</sup> Those who would challenge these statements must at least concede that the Sulfonylurea-Biguanide Era has enhanced rather than eased the complexity of diabetes control. Certainly there is no justification in a double standard of diabetes control born of the simple convenience of oral medication. In the final puristic analysis there exists perhaps only three distinct groups in whom advantages of these agents outweigh those of insulin:

- (1) Patients who are physically incapable of self-injection of insulin due to visual impairment, incoordination, paralysis, etc.
- (2) Irreversible "needle-phobia" which is a rare occurrence.
- (3) A rather limited select group of maturity onset, stable diabetics in whom control is actually "smoother" with less tendency to

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\*Phenformin®, Arlington-Funk Labs., Div. U. S. Vitamin Corp.

hypoglycemic reactions than obtains with the use of insulin. (The actual number of such patients has been exaggerated in the past.)

Silhouetted against these few advantages are many precise hazards and abuses, including the following:

(1) A dangerous sense of complacency and false security nurtured by the convenience of oral medication.

(2) A sizable number of so-called "primary" and "secondary failures" coupled with occasional "side effects" (nausea, vomiting, epigastric distress, neurologic deficits, dermatitis, hepatic dysfunction, jaundice, hematopoietic disturbances, etc.).

(3) A widespread tendency to substitute oral therapy for effective weight reduction to achieve normoglycemia in obese diabetic patients.

(4) The use of certain oral agents imposing undue economic hardship on the patient in whom the use of insulin may be 50 to 90 per cent cheaper; this is especially true in the case of combined therapy (such as tolbutamide\* and phenformin) which is not only more costly but enhances the complexity of good management.

(5) The unpredictability of possible toxicity from long-term administration of these substances.

The abusive tendency to excessive utilization of sulfonylureas alone is epitomized by the staggering total of 850,000 diabetics who are purported to be receiving these drugs in the United States alone. (This simple total is based on advertised claims of the manufacturers of tolbutamide and chlorpropamide.\*\*) That these drugs are greatly over-prescribed can be deducted by simple arithmetic: The world's largest manufacturer of insulin has reported a steady rise rather than a fall in insulin sales. Since roughly half the known diabetic population of 1,500,000 patients have previously been controlled by diet and since insulin sales have risen steadily, it would be impossible to establish a legitimate indication

for the use of oral agents in more than perhaps 400,000 patients at best. The latter is still an exaggerated figure since most authorities have estimated the number of eligible patients at  $10^2$  to  $20^3$  per cent or about 300,000 maximum. In the author's own private practice of 1,200 active patients a genuine indication for oral antidiabetic agents has been established in only 123 patients or approximately 10 per cent. (There are, of course, many more who could be successfully transferred from insulin to oral agents but have elected to remain on insulin when presented with the facts already mentioned, together with the philosophical viewpoint that part of the financial saving usually effected can be applied to closer clinical observation by the physician.)

Finally, the precise therapeutic application of Sulfonylurea compounds and/or Biguanides (DBI®),\* is subject to wide divergence of opinion among qualified clinicians. This problem stems largely from controversy over just what constitutes "control" in the management of diabetes mellitus. Recently a committee of the American Diabetes Association submitted criteria of diabetes control as follows: "Freedom from diabetic symptoms maintenance of good nutrition and normal body weight, absence of glycosuria and ketonuria, and absence of hyperglycemia (the 'true' blood sugar not over 100 mg. per cent fasting and not over 150 mg. per cent after eating)."<sup>1</sup> This is obviously the puristic approach, and only a novice would expect to achieve these objectives in any and all patients without sometimes making the treatment worse than the disease (by inducing hypoglycemic shock, paradoxical hyperglycemia, psychoneuroses, etc.). Nevertheless these criteria are well-intentioned and if they discourage undue compromise, they serve a useful purpose.

#### Which Oral Antidiabetic Agent For Which Patient?

Unfortunately, precise indications of the use of any of the three currently available

\*Orinase®, The Upjohn Company.

\*\*Diabinese®, Pfizer Labs., Div., Charles Pfizer & Co., Inc.

\*Biguanides, Arlington-Funk Labs., Div. U. S. Vitamin Corp.



agents are conspicuously absent with the exception of a few obvious points of demarcation:

(1) Patients over forty years of age with maturity-onset diabetes of less than ten years' duration and devoid of infection or ketosis might be successfully controlled on any of the three agents, at least for limited periods.

(2) Patients under the age of forty years without infection or ketosis might be considered for phenformin but *generally* not for sulfonylurea therapy.

(3) So-called "brittle" diabetics might be subjected to a trial of phenformin as adjunctive therapy with insulin in an effort to mitigate the labile state—a highly controversial approach. (The author has not encountered a single successful case in twelve attempts.) It is more generally conceded that sulfonylureas rarely if ever can achieve this effect.

(4) Patients incapable of self-administration of insulin, such as in severe parkinsonism, blindness, hemiplegia, amputations, etc.

Regardless of these indications, no patient is exempt from the threat of "primary" or "secondary" failures, the latter occurring almost invariably sooner or later, which points up the urgency of constant follow-up observation by the clinician.

Contraindications to the use of these drugs are more clear-cut and well established:

(1) Juvenile or growth-onset diabetes. (Phenformin is utilized by a few clinicians but should never be used without insulin therapy.)

(2) The presence of infection with or without ketosis should be regarded as an absolute contraindication.

(3) Patients who are well controlled and satisfied to stay on insulin.<sup>5</sup>

(4) Unstable or "brittle" diabetes (with the exception of the controversial combination of phenformin and insulin).

(5) Obese diabetic patients.

(6) Diabetic ketosis and especially in patients with fever, coma, trauma, gangrene, Raynaud's disease, or serious disturbances in thyroid or renal function.

(7) Any patient whose diabetes is adequately controlled by diet alone.

Intelligent selection of the appropriate oral agent is hardly possible without a working knowledge of the biochemical, practical, and economic features of each of the three drugs, with respect to one another. For example, the so-called "half-life" of either tolbutamide or phenformin is not over eight hours, while that of chlorpropamide exceeds twenty-four hours. In the latter case overdosage, inadequate follow-up, or the presence of renal insufficiency may eventuate in severe, protracted cumulative hypoglycemia which is even more refractory to treatment than insulin hypoglycemia. The recent introduction of a timed disintegration capsule of phenformin incurs a similar, though not usually severe, hypoglycemic potential but side effects (nausea, vomiting, diarrhea, and metallic taste) are somewhat more frequent than obtains with the standard phenformin tablets.

Recently, Beaser,<sup>6</sup> Dolger,<sup>7</sup> and Unger, Madison, and Carter<sup>8</sup> have suggested combined sulfonylurea-phenformin therapy in certain patients hyporesponsive to standard doses of either drug alone. There is no doubt about the efficacy of this approach since the *modus operandi* of each of these two compounds is so dissimilar, and side effects may be lessened bilaterally on resultant lower dosage of each drug. But the wisdom of complicating the patient's daily routine together with compounding the number of potential side effects (despite their quantitative reduction at lower dosages) and perhaps again at increased cost is open to serious question. When such a patient may be equally well controlled on insulin alone, this approach seems hardly justified unless self-injection is impossible. Moreover, the patient placed on phenformin, whether adjunctively with sulfonylureas or insulin is required to "unlearn" the previously taught significance of ketosis

of insulin-lack and learn that the occurrence of so-called "starvation ketosis" of biguanide therapy is an indication for liberalization of carbohydrate intake and perhaps a reduction of insulin dosage. Thus, a most valuable early sign of threatened diabetic coma is nullified under these circumstances. Obviously, then, since starvation ketosis and hyperglycemic ketoacidosis are two entirely different phenomena, the patient (and sometimes the less experienced clinician) may be dangerously confused.

In the author's experience, some patients develop side effects (nausea, vomiting, diarrhea, and metallic taste) with as little as a 50 mg. timed-disintegration tablet once daily or on two 25 mg. oral tablets daily. Hence there is a distinct need for 25 mg. T-D tablets and 12.5 mg. standard oral tablets not currently available.

In summary, all three currently available oral antidiabetic agents are effective within their precise limitations, and each has its proponents and censors. Of the sulfonylureas I

TABLE I\*

## CLINICAL DATA

125 CHLORPROPAMIDE TREATED PATIENTS FOLLOWED AT  
GRAND FORKS CLINIC

Sex.....	65 males	60 females	
Age.....	34-89 years (mean 65.5 years)		
Duration of Diabetes.....	6.5 months to 37 years (mean 6.8 years)		
Previously on Diet.....	44 patients		
Previously on Tolbutamide.....	52 patients		
Previously on Insulin.....	29 patients		
Duration of Therapy			
Range: 2 weeks to 42 months			
Mean: 15.82 months			
Average Daily Dose.....	228 mg.		
Degree of Control			
Excellent.....	84 patients (67.2%)	}	88%
Good.....	26 patients (20.8%)		
Fair.....	4 patients (3.2%)		
Secondary Failure.....	11 patients (8.8%)		
Comparison of Secondary Failures			
Tolbutamide (61 patients).....	13.1%		
Chlorpropamide (125 patients).....	8.8%		
Maximum Dosage (Tolbutamide).....	3.0 gm.		
Maximum Dosage (Chlorpropamide).....	750 mg. (3 patients)		
Incidence of Side Effects			
Tolbutamide (61 patients).....	None		
Chlorpropamide (125 patients).....	None		
Clinical Advantages of Chlorpropamide			
(1) Half-life permits single daily dosage.			
(2) Conversion from tolbutamide effects two to four-fold saving in drug cost.			
(3) Primary and secondary failure rates approximately 30 per cent lower than obtains with tolbutamide.			
(4) Control equal and sometimes superior to tolbutamide.			

\*Presented in the Scientific Exhibit, 111th Annual Meeting, American Medical Association, Chicago, Illinois, June 24-28, 1962, by E. A. Haunz, M. D., and W. E. Cornatzer, M. D.

prefer chlorpropamide because of its sustained action time and often superior performance in properly selected patients. It is considerably cheaper than tolbutamide. When the patient cannot be controlled on one tablet (250 mg.) daily, I do not feel it should be increased beyond 375 mg. In fact some patients inadequately controlled on 3 gm. of tolbutamide daily have been successfully treated with 250 to 375 mg. of chlorpropamide. Clinical experience with 125 patients treated for various intervals since 1959 is briefly summarized in Table I and are very similar to the recently published experience of Hadden, Montgomery, and Weaver who carefully followed clinical responses over a two year period.<sup>9</sup> Our experience indicates that with conservative dosage and close follow-up patients exhibit no toxicity and side effects are negligible. This is consistent with the notable absence of case reports of jaundice or hepatotoxicity since 1960, compared with sixteen patients reported during 1959 and 1960. In fact, as Marble<sup>10</sup> has stated, "the unwise or poorly supervised use of oral agents presents a much greater potential hazard than any toxic effects which have been noted with the present market preparations." This statement gains impetus in the fact that Krall<sup>11</sup> observed but one case of jaundice (with complete recovery) in their carefully managed group of 400 patients, occurring after twenty days' exposure to 500 mg. per day of chlorpropamide. Careful observation during the first six weeks of therapy is imperative since jaundice rarely occurs thereafter.

### When Should Insulin Be Used?

For purposes of simplicity it might be said that the indications for the use of insulin remain unchanged, except that sulfonylureas or biguanides may be substituted wherever the latter can achieve at least equally good diabetes control. Combined sulfonylurea-insulin therapy, however, rarely achieves control superior to insulin alone,<sup>3</sup> and this practice should be generally discouraged. An exemplary patient is shown in Figure 1. The

same may be said of combined biguanide-insulin therapy, although this statement would be challenged by some investigators. Among twelve carefully studied so-called "brittle" diabetic patients not a single instance of improved control could be established in the author's experience. Genuine proof of success or failure should be established by a technique similar to that shown in Figure 2 which depicts daily blood sugar profiles, 24-hour urinary glucose output, and frequency of insulin reactions during a period of forty-five days. The patient, a woman aged forty-six, had very "brittle" diabetes of twenty-two years' duration characterized by numerous severe hypoglycemic shocks (sometimes with convulsions) alternating with bouts of ketoacidosis. Numerous combinations of insulin were tried with frequent dietary adjustments in a vain effort to improve control. After a fixed program of insulin and diet for eighteen days, phenformin was added to the regimen. Not only did the latter fail to effect any degree of metabolic stabilization, but induced vomiting on the 26th day. If anything, there was even further deterioration in control, as evidenced by increased glycosuria, more severe reactions, and continued wide oscillations in blood sugar values from 80 to 600 mg. per cent. This patient was an ideal experimental subject since she was bed confined from a cerebral accident which had stabilized over several months. Eighty-eight blood sugar determinations were made during the forty-five day study period. One need only refer to the literature to be convinced that controversy over this combination emits considerably more heat than light.

The judicious use of insulin is predicated more upon when not to use insulin than when to use insulin. Constant awareness of the fact that nearly half the diabetic population beyond the age of thirty-five years can be successfully managed without insulin or oral agents is a valuable deterrent to unnecessary use of these drugs. Both the indications and contraindications for insulin are more relative than absolute and bias weighs heavily among individual physicians whose decisions



are colored by previous teaching, personal experience, or an admixture of both, sometimes neither of which has been quite adequate.<sup>12</sup>

While the use of insulin is obviously not part of the "new look" in diabetes therapy, inadvertent overdosage in certain patients may induce the recently described phenomenon of paradoxical hyperglycemia, observed by Somogyi<sup>13</sup> and others.<sup>11</sup> The following case report, previously published,<sup>12</sup> is a classical example:

A fifty-six year old woman was found to have diabetes mellitus on November 27, 1960, at which time control of the disease was attempted with the use of lente insulin and a diet consisting of carbohydrate 200 gm., pro-

tein 81 gm., and fat 74 gm. (1838 calories) distributed over six feedings daily. Insulin was rapidly increased to 75 units daily. Despite dietary adjustments and varied admixtures of modified and crystalline insulin, the diabetes became progressively more labile or "brittle," blood sugar values oscillating between 37 and 495 mg. per cent with corresponding glycosuria and episodes of ketosis, as illustrated in Figure 3. Hypoglycemic reactions were infrequent and mild. Curious hyperglycemic tides occurred nearly every afternoon (about 1:00 p.m.) despite increasing increments of crystalline insulin. Diabinese® was added to the regimen by this patient's physician in a vain effort to lessen the metabolic instability and, if anything, this

FIGURE 1

## COMBINED INSULIN-CHLORPROPAMIDE THERAPY IN A "BRITTLE" DIABETIC PATIENT

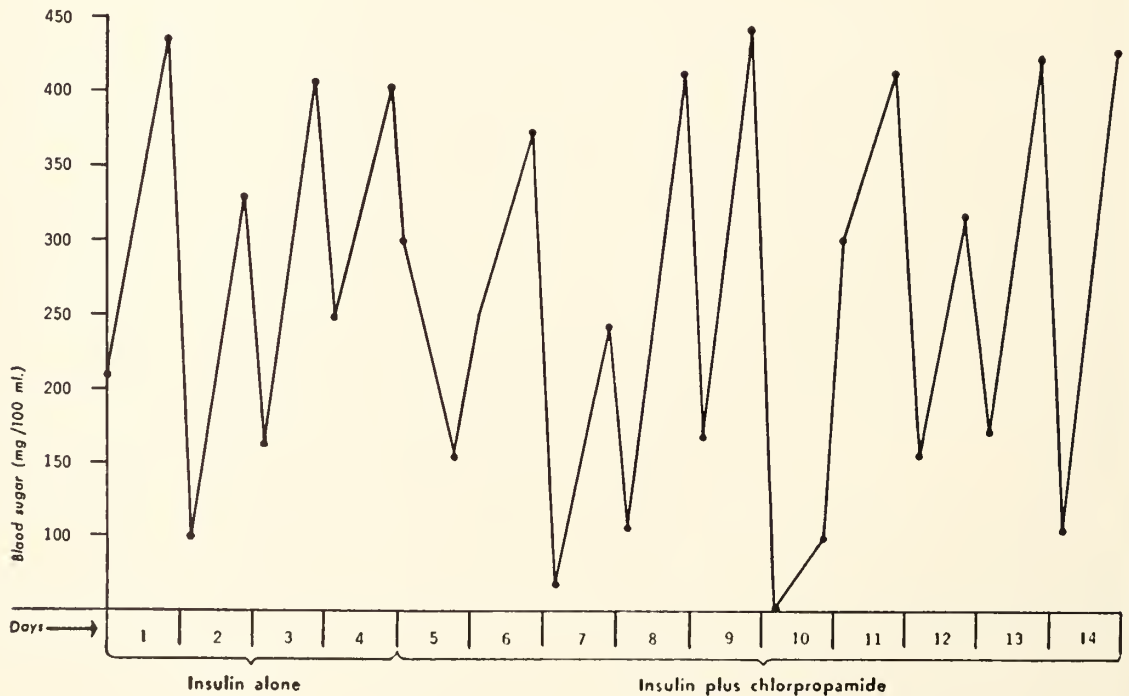


Figure 1. Graphic presentation showing comparative results of treatment with insulin alone, and with insulin plus chlorpropamide in a "brittle" diabetic patient aged 59 years, under hospital supervision. Blood sugar levels were found equally unstable on either program. The dosage of chlorpropamide was 250 mg. twice daily. The total dosage of insulin used alone was 56 units, only 6 units higher than

final dosage with chlorpropamide added to the regimen. This small reduction in insulin dosage was not considered significant in view of lack of improved control. Attempts to further reduce blood sugar levels resulted in frequent hypoglycemic reactions. (The diabetes was of 15 years' duration.) Blood sugar determinations were made twice daily (fasting and postprandially).

simply augmented the problem. It was, therefore, discontinued.

On seeing this patient in consultation, it was suspected that she may represent a case of paradoxical hyperglycemia. After gradual reduction of insulin dosage from 75 units to 12 units daily, utilizing first semilente-crystalline insulin mixtures and later semilente alone, the metabolic instability markedly improved. Thereafter fasting and postprandial blood sugars approached normal and the urine remained sugar-free.

It is of further interest that an attempt to transfer the patient to chlorpropamide at this juncture again resulted in immediate primary failure and insulin therapy had to be resumed.

Comment: This patient illustrates the cause and effect relationship between hypoglycemia and ensuing tides of hyperglycemia and glycosuria. There is little doubt that nocturnal and early morning hypoglycemic troughs were propagating the severe daytime hyperglycemia through stimulation of the adrenal-pituitary system as an alarm response to stress. Specifically, whenever the blood sugar falls to hypoglycemic levels, an increase in epinephrine secretion is stimulated via the splanchnic nerves. The increased concentration of epinephrine then stimulates the anterior pituitary to release ACTH which, in turn, evokes increased adrenocortical activity. (The possible role of glucagon in this chain of events is speculative.)

FIGURE 2

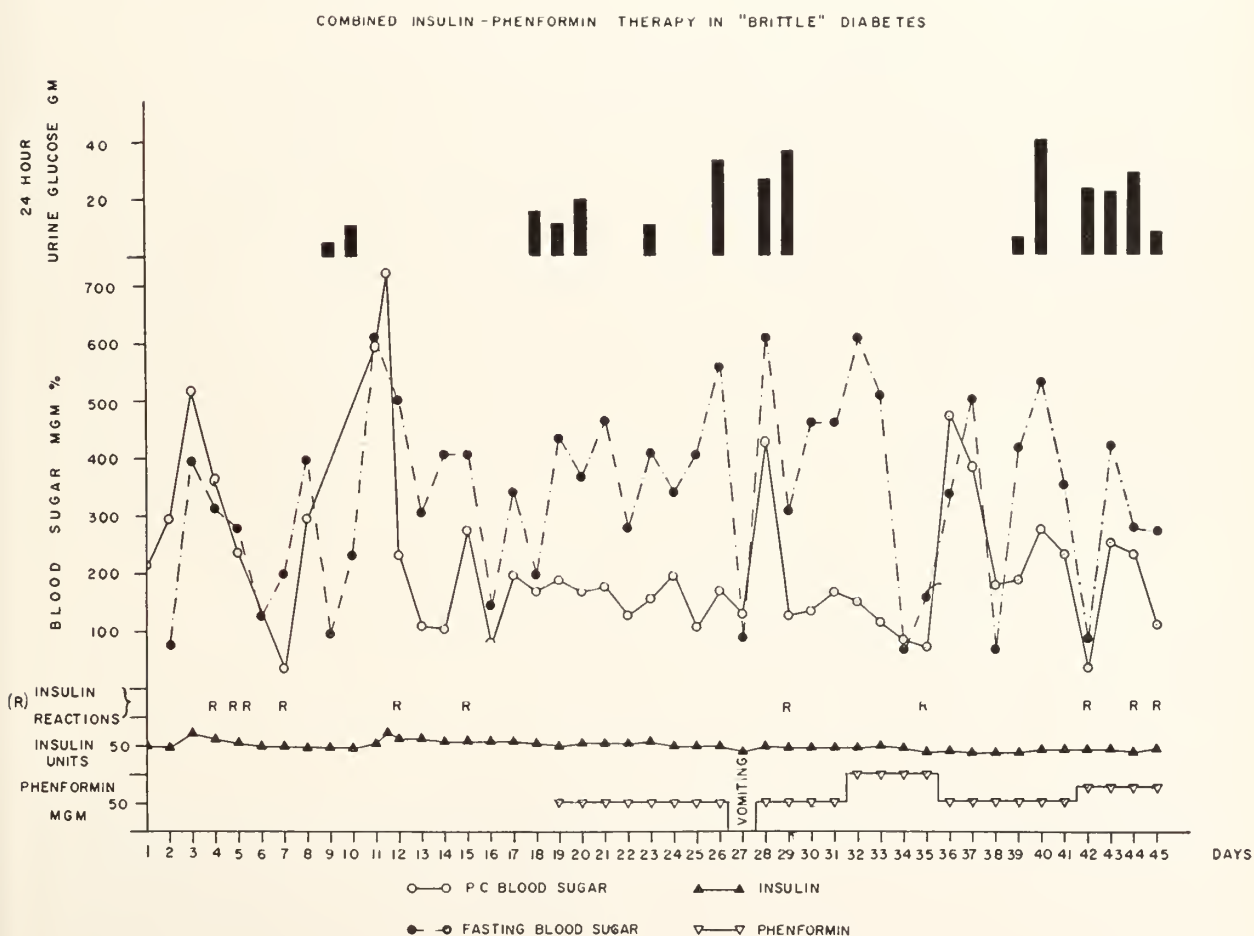
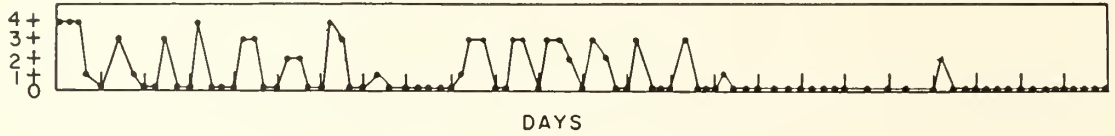


FIGURE 3

## PARADOXICAL HYPERGLYCEMIA

URINE GLUCOSE (CLINITEST):



BLOOD GLUCOSE LEVELS and INSULIN DOSAGE:

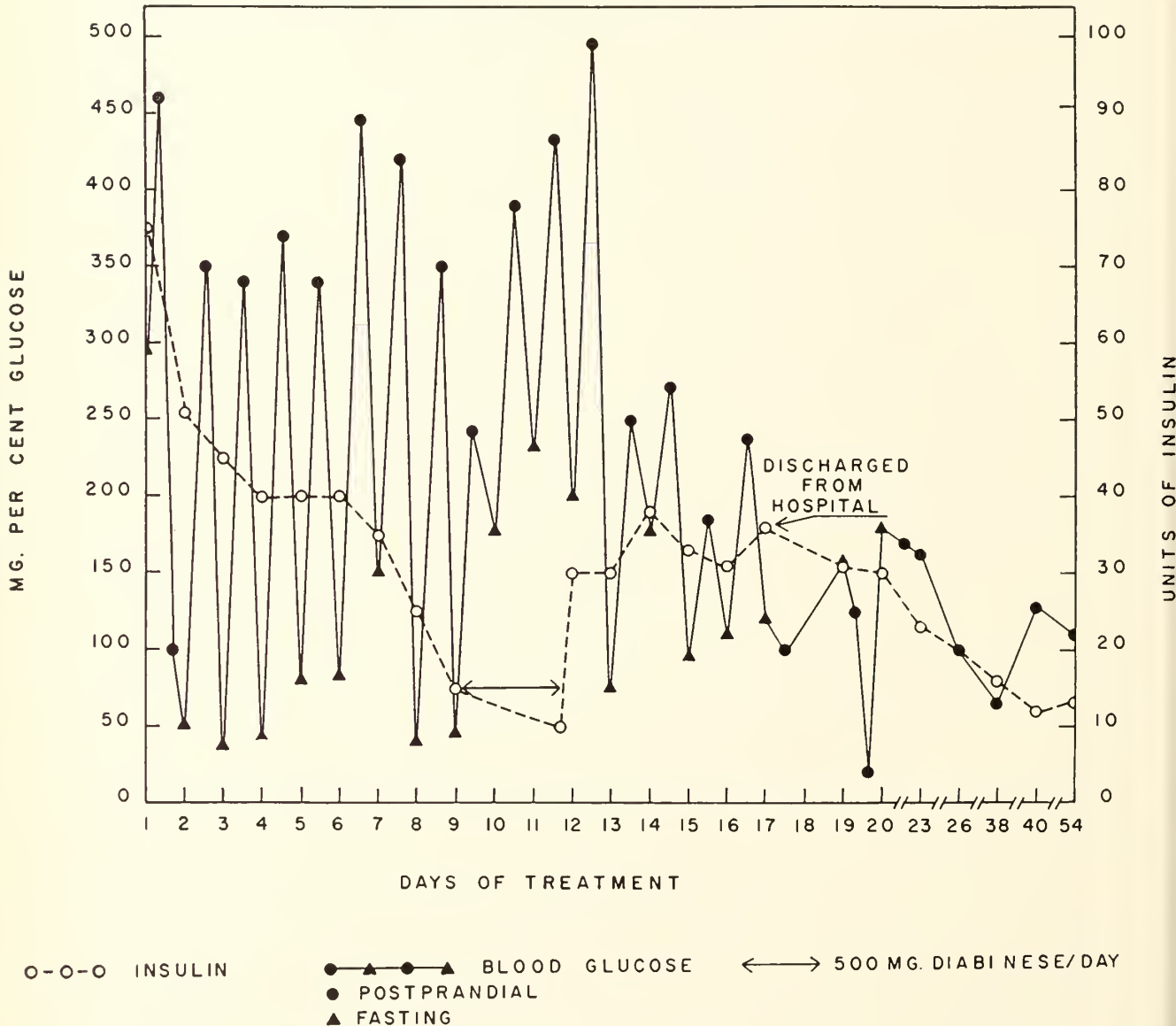


Figure 3. Graphic presentation of blood and urinary glucose levels, together with corresponding insulin dosage, illustrating the phenomenon of "paradoxical hyperglycemia" in a 56-year-old woman whose diabetes became extremely labile on increasing dosage of insulin. A trial of chlorpropamide eventuated in immediate primary failure. Gradual reduction in insulin dosage from 75 to 12 units daily finally eliminated the frequent vacillating extremes in blood sugar levels. The rather consistent pattern of

fasting hypoglycemia and postprandial hyperglycemia could not be corrected by various types of insulin, with or without admixture, until insulin dosage was gradually reduced. (Remission of the diabetes was excluded by the demonstration of: (1) prompt resurgence of hyperglycemia on further reduction of insulin dosage, and (2) exhibition of primary failure to therapeutic retreat of chlorpropamide (see text).)



Solution of the problem in this case was much simpler than obtains with certain diabetic patients who have been over-insulinized for longer periods of time. In the latter, weeks or months of strategic juggling of insulin dosage and diet may be required to effect metabolic restabilization. Strict avoidance of even asymptomatic hypoglycemic episodes is a key factor, although low carbohydrate intake must also be avoided. In the most refractory cases (especially in children), the process is tedious and insulin can be decreased only two or three units at a time to avoid abrupt deterioration and the threat of ketoacidosis and coma.<sup>14</sup>

It may be argued that the burden of proof of the phenomenon of paradoxical hyperglycemia in this case rests upon reduplication of the original picture by repetition of over-insulinization. Somogyi<sup>13</sup> has already performed this most unpleasant feat in one patient. (Such attempts in a private patient might well have litigious implications.) A remission of the diabetes as an explanation for smoother control effected on less insulin was excluded by the demonstration of immediate primary failure to a therapeutic retreat of chlorpropamide. The patient remained aglycosuric and virtually normoglycemic in response to only 12 units of semilente insulin daily. Also, further reduction of insulin dosage resulted in prompt reappearance of hyperglycemia and glycosuria. At the time of this writing her insulin requirement had gradually risen to 24 units of semilente insulin daily, but the diabetes has remained stable.

It must not be concluded that every patient with labile or so-called "brittle" diabetes represents a case of paradoxical hyperglycemia since it is recognized that other known and unknown factors can be responsible and sometimes the problem remains insoluble. Finally, it must also be realized that by no means do all cases of over-insulinization result in the phenomenon of paradoxical hyperglycemia.

While of less recent origin, the Insulin-Zinc Suspensions introduced by Hallas-Moller<sup>15</sup> in 1952 represent the most notable advance in modified insulins since 1937. Zinc alone is now capable of extending the time-action curve of insulin in the presence of an acetate buffer, a critical pH range (pH 5-8) and proper physical state of the insulin itself (amorphous or crystalline) (large or small crystals). With the advent of these so-called lente insulins the protein-precipitated insulins are outmoded, the prediction being that the latter will eventually disappear from the market.<sup>16</sup> Indeed, this would greatly relieve the current problem of seven "different insulin preparations." The three insulin-zinc suspensions, together with unmodified (crystalline) insulin permit almost unlimited dosage combinations, fulfilling the timing requisites of all conceivable types of diabetic patients.

It is the author's policy to subject every new insulin-requiring diabetic to initial trial with lente insulin since at least 80 per cent of patients can be successfully controlled thereby. Control can be satisfactorily established in the remaining 20 per cent through strategic use of diet, mixtures of lente and crystalline insulin, or mixtures of semilente and ultra-lente insulin. Crystalline insulin in divided doses (two, three, or four injections per day) offers the nearest solution to the problem of the true "brittle" diabetic.<sup>17,18</sup>

### Glucagon

There hardly exists a more pitiful scene than a distraught mother, unable to summon a physician, (perhaps because of a North Dakota blizzard), kneeling helplessly over her unconscious diabetic child who is in hypoglycemic convulsions. The recent commercial availability of glucagon heralds a new era of security for the reaction-prone diabetic, since even the *hypodermic* injection of this substance effects prompt reversal of hypoglycemic shock. While occasional failures have been reported, I have not seen a single instance among 133 hypoglycemic attacks treat-

ed with doses of 2 mg. (2 cc.) or more. There were, however, five failures among sixty-five patients treated with only 1 mg. (1 cc.) doses. Intravenous glucose effected prompt reversal in these cases. Since glucagon is possessed of a wide margin of safety, the dose should never be less than 2 mg. (2 cc.), except, perhaps, in infants. The prompt reversal of shock is effected without elevating the blood sugar above 153 mg. per cent, according to Elrick et al.<sup>19</sup>

Recently we have instructed relatives of all reaction-prone diabetics to inject glucagon, using the patient's insulin syringe. Since a standard insulin syringe holds only 1 cc., they are instructed to fill it twice, injecting in two different sites. In so doing the surface area of absorption is increased, accelerating the drug action. After using glucagon the insulin syringe should, of course, be thoroughly cleaned. Recently glucagon was shown to be useful to exclude feigned insulin reactions among diabetic children.<sup>20</sup>

### Lipid Lowering Agents

Another facet of the "new look" in therapy of diabetes has been the use of various hypolipemic agents in an effort to lower cholesterol and total lipids in patients exhibiting significant elevations in the serum. Simple dietary restriction of saturated fatty acids has not, in our experience, effectively lowered blood cholesterol and/or total lipids in diabetic patients. Therefore, Cornatzer and the author<sup>21</sup> conducted exhaustive clinical trials with four hypolipemic agents, namely, sitosterols, linoleic acid, oral heparin, and triparanol in twenty hyperlipemic, hypercholesterolemic diabetic subjects over a period of four years, utilizing placebo intervals. In the course of this study over eleven thousand blood lipid fractionations were subjected to critical analysis of therapeutic performance. In terms of cholesterol lowering effect (the only effect achieved in significant degree)

triparanol was the sole agent capable of inducing a significant clinical response. With this drug the grand average cholesterol value for all twenty patients showed a decline of 82 mg. per cent. In one patient the level was depressed 238 mg. per cent.

Unfortunately, at the time of this writing triparanol (MER/29<sup>®</sup>) was withdrawn from the market pending resolution of controversial opinions of certain side effects. For the present, then, triparanol remains an investigative drug.

### Summary

An attempt has been made to present an analytical review of newer trends in the treatment of one of the oldest diseases known to man. Despite the advent of sulfonylurea drugs and phenformin as valuable new therapeutic and research tools, insulin and diet are still the keystone in the arch of treatment. In fact, the introduction of oral agents has enhanced rather than eased the complexity of diabetes management. In the words of Prout, "The best oral hypoglycemic agent is a good diet."<sup>22</sup>

Paradoxical hyperglycemia is now a well established clinical entity and must be understood by all diabetes therapists if this iatrogenic phenomenon is to be avoided.

Although of less recent origin, the insulin-zinc suspensions are just coming into their own and will probably eventually replace all existing preparations except crystalline insulin. Lente insulin is adequate for 80 per cent of patients. The recent commercial availability of glucagon is a major step forward in the treatment of severe hypoglycemic shock.

Finally, the use of certain hypolipemic agents in hypercholesterolemic diabetics is generally ineffective except for triparanol which unfortunately is not commercially available at present.

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# Spontaneous Rupture Of The Rectosigmoid

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Spontaneous rupture of the rectosigmoid unassociated with any pathology is an extremely unusual condition. Because of two cases recently encountered, and since there are few recent reports with discussion of this problem in the English literature, it is felt that a brief review of this subject may be of some interest. Lindenbaum<sup>7</sup> collected twenty-six cases from the literature from 1827 to 1937 and added one case report of his own. Twenty-three cases were associated with straining or effort, twelve during defecation, four during weight lifting and the remainder after a fall, during vomiting, or micturition, or after return of prolapsed rectum. In thirteen cases, rupture was in some way associated with prolapse of the rectum and in two cases with carcinoma. In eight cases no pathology was found. Guibe<sup>5</sup> described one case in which the rectum ruptured during sleep. Allen<sup>1</sup> reported a case of perforation of the rectum that occurred while the patient was walking to work. Minkari<sup>8</sup> recently reported a case of rectosigmoid rupture with evisceration of small bowel through the anus. He reviewed the literature on this subject, noting a very high mortality rate among these cases,

and speculated as to the mechanisms of rupture.

Dickinson<sup>4</sup> also recently published a review and added six cases of his own, bringing the total number of his collected cases to twenty-five. Ten of these twenty-five patients died. He noted that Benjamin Brodie<sup>2</sup> described the first case of spontaneous rupture of the rectum in 1827, and that in 1919, Huntley<sup>6</sup> recorded the case of an army officer whose pelvic colon spontaneously ruptured during defecation. Both patients died and in neither case was any abnormality of the rectum found at autopsy. According to Dickinson, Burkhardt<sup>3</sup> in 1908, first successfully sutured a perforation in a seventeen year old whose rectum ruptured during defecation. Four of Dickinson's six cases experienced perforation during defecation. He noted that the ages of all cases reviewed ranged from sixteen to sixty-nine years, there being thirteen female and twelve male patients, thus indicating that age and sex play no role as to etiology.

The following two cases are presented to further illustrate this problem.

## Case No. 1

This forty-six year old colored male was admitted to Elmore County Hospital on No-

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Dr. Barnes is a graduate of Emory University School of Medicine and is a full time specialist in surgery in Montgomery, Alabama.

vember 27, 1961, complaining of abdominal pain. Approximately three hours prior to admission, he noted the sudden onset of severe abdominal pain radiating into the groin and left testicle, while defecating in the squatting position in a corn field. The pain was constant and accompanied by nausea and vomiting. The past history was negative for illness of any significance.

**Physical examination:** The patient was a well developed and well nourished colored male in acute distress, complaining of severe abdominal pain. The skin was moist and cool and abdominal examination revealed generalized abdominal tenderness with rebound tenderness and markedly diminished peristalsis. Rectal examination disclosed pain to peritoneal stimulation. The remainder of the examination was unremarkable.

**Laboratory data:** On admission, the hemoglobin was 90 per cent; hematocrit, 46 per cent and hemoglobin was 15 gms. The WBC was 7,500, with 69 lymphs, 30 segs, 1 mono. The urinalysis was essentially negative. X-rays of the abdomen were negative for free air.

**Hospital course:** On admission to the hospital, the diagnosis was not clear to the attending physician, and the patient was observed and treated symptomatically with intravenous fluids and analgesics. The abdominal pain persisted and became more severe and he developed abdominal rigidity. Eighteen hours after admission to the hospital, X-rays of the abdomen were repeated and these showed a large amount of free air in the peritoneal cavity beneath both diaphragms. Also, by this time, there was definite leukocytosis and temperature of 101° and it was obvious that there was a perforated viscus. Laparotomy was performed and on opening the peritoneal cavity, a large amount of grossly bloody peritoneal fluid with a definite fecal odor was encountered. This was removed by suction and the abdomen explored with the finding of a perforation of the sigmoid colon measuring about 1 cm. in diameter and located several inches above the peritoneal reflection of the colon. This

perforation was covered by a foul smelling blood clot. The remainder of the entire gastrointestinal tract and abdominal viscera showed nothing of note. Since the colon and the site of perforation were in no way indurated and appeared to be uninvolved in any chronic or acute inflammatory process, we performed a two layer closure, which was satisfactory, and colostomy was not done.

Postoperative treatment consisted of intravenous fluids, antibiotics, and other supportive measures. A catheter was kept in the bladder for approximately one week. After good peristalsis had developed, the nasogastric tube was removed from the stomach. Bowel movements were spontaneous and his postoperative course was completely uneventful. A biopsy taken at operation from the site of perforation showed normal colon. He was discharged on December 13, 1961, sixteen days after admission to the hospital. Follow-up examinations have revealed no particular problems.

## Case No. 2

This twenty year old student was admitted to Jackson Hospital, Montgomery, Alabama, on December 21, 1961, complaining of abdominal pain of twelve hours duration and accompanied by nausea, but no vomiting. His pain was rather insidious in onset and was followed by three bowel movements that appeared to contain blood. There was no history of an enema or any instrumentation of the rectum. Past history revealed that in November of 1958, laparotomy was done in Birmingham, Alabama, for peritonitis attributed to acute appendicitis, although there was no perforation of the appendix. However, appendectomy was performed at that time, but his postoperative course was quite stormy and required several subsequent surgical procedures, including jejunostomy for paralytic ileus. Several intraperitoneal abscesses were drained, and because of a pelvic abscess, a colostomy was performed some three to four months later. A barium enema obtained four months following colostomy

showed no defect of the left colon. The operating surgeons were carefully questioned regarding any possibility of perforation of the colon during this illness and all stated that there was no evidence of such. The colostomy was closed in 1959 and since that time, for three years prior to this episode, the patient was well and experienced no abdominal problems.

**Physical examination:** His temperature was 100.4°, blood pressure 120/70 and respiration, 18. This was an acutely ill young college student complaining of constant, severe abdominal pain. Examination of the heart and lungs was within normal limits. Abdominal examination disclosed two scars of previous surgery. There was generalized tenderness with rebound tenderness which was most marked in the left abdomen. There was no evidence of hernia. Rectal examination disclosed reddish brown feces on the examining glove, but no masses were palpable.

**Laboratory data:** Admitting blood count showed a WBC of 19,250, with 81 segs, 5 stabs, and 14 lymphs. The hemoglobin was 15.8 gms. The urinalysis showed a specific gravity of 1.024; the albumin, sugar, acetone, were negative; there were 2 to 3 WBC, 2 to 3 epithelial cells on microscopic examination; the Ph was 7.0. Repeat blood count eight hours after admission showed a WBC of 29,100, with 81 segs, 1 stabs, 18 lymphs. The serology was negative.

**Hospital course:** X-rays of the abdomen were obtained and these showed a distended loop of small bowel in the left upper quadrant of the abdomen containing an air fluid level. Close observation over an eight hour period showed that the patient's pain and abdominal findings were becoming more severe and the temperature and white blood count were rising. Because of history of previous surgery, and its multiple complications, it was felt that the best preoperative diagnostic possibility was a closed loop obstruction of the small bowel with gangrene. At laparotomy, a large amount of foul smelling bloody peritoneal fluid was encountered. The sigmoid colon was perforated two inches above

the peritoneal reflection, the perforation consisting of a rent 1.5 cm. long on the antimesenteric margin. There was no foreign body. Closure of the colon defect and right transverse loop colostomy was performed. Culture of the peritoneal pus showed *Escherichia coli* and anaerobic streptococci, sensitive to chloramphenicol, but resistant to all other antibiotics, except gantrisin. His postoperative course was uncomplicated and during the first three postoperative days, he was treated with continuous nasogastric suction, catheter drainage of the bladder, intravenous fluids, electrolytes, and antibiotics. The colostomy functioned well and the wound healed without infection. On January 3, 1962, a barium enema was performed in order to check the point of perforation and closure, and this showed a very small tract extending approximately 1 cm. out of the lumen of the bowel at the site of the closure of the perforation. No polyps or diverticulae were demonstrated in the colon. Because of this small tract, it was elected to discharge the patient and readmit him for closure of the colostomy at a later date. He was discharged on January 6, 1962 and was readmitted to Jackson Hospital on January 20, 1962 for closure of the colostomy. During his stay at home, he had experienced no abdominal problems and the colostomy had functioned well. He had gained approximately ten pounds in weight. Physical examination on this admission revealed a temperature of 98.°, normal pulse and blood pressure, excellent nutrition and no abnormalities other than the presence of the right transverse loop colostomy, which was functioning well, and healed scars of the previous surgery. A barium enema was done and the previously described tract extending from the sigmoid, noted on examination on January 3, 1962, could not be demonstrated on this examination.

Sigmoidoscopic examination was performed and good visualization of the rectosigmoid to seven inches was obtained, but the sigmoidoscope could not be passed above this level because of angulation of the bowel. Since the colon was free of any evidence of



the old perforation or intrinsic disease, it was elected to close the colostomy and this was done under general anesthesia on January 23, 1962. Following this the patient has had normal bowel movements and no complications.

This patient repeatedly denied any rectal instrumentation prior to onset of his acute illness, and after viewing the rectosigmoidal anatomy at laparotomy and by sigmoidoscopy, it is very unlikely that any rigid or even flexible instrument could have been passed from below to the site of perforation because of adhesive angulation secondary to previous surgery.

### Discussion

In both of the above cases no primary pathology of the rectosigmoid could be demonstrated, and there was also no evidence of foreign body perforation or instrumentation from below. Therefore the cause of perforation in each instance is unknown and, as far as could be determined, spontaneous. Various explanations have been proposed as to the mechanisms of rectosigmoid rupture and it has been noted that in most instances there is a relation to increased intraperitoneal pressure. According to one theory<sup>8</sup> increase of the intraabdominal pressure, in the cases accompanied by rectal prolapse, drives the rectum into the pelvis causing chronic inflammation of the mucosa of the rectum and dilatation and alteration of the veins situated here. Violent and continuous effort lacerates the walls of the veins and thereby produces an intramural hemorrhage. The hematoma, so formed, separates the layers of the wall and continuation of effort finally causes its laceration.

Another theory holds that increased intraperitoneal pressure, from whatever cause, may give rise to a progressive deepening of the cul-de-sac of Douglas and with loops of small bowel continually finding their way into the Pouch of Douglas, a severe maximal effort can give rise to rectal rupture. Whatever the mechanism, it is probable that a

weakness in the rectal wall develops and when enough intraabdominal pressure is exerted, rupture can take place.

When evisceration of intraabdominal organs through the anus occurs, as in the case of Minkari, the mortality rate is high. In these cases, the diagnosis is obvious and the treatment recommended is laparotomy with reduction of the evisceration or resection of eviscerated mass and closure of the perforation. Where no evisceration takes place, the patient presents the problem of peritonitis of undetermined cause and the diagnosis is made at laparotomy. If the perforation is truly spontaneous, and recognized as such, and if the operator can be absolutely sure that there is no intrinsic pathology at the site of perforation, then simple closure of the perforation should prove to be satisfactory. If there is any question of intrinsic pathology, then of course, closure with colostomy would seem to be the treatment of choice.

Spontaneous rupture of the rectosigmoid is an interesting phenomenon and a rare cause of the acute abdomen. The high mortality rate in the past is quite likely due to the many inadequacies of diagnosis and treatment that existed prior to modern day methods.

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## *Editorials*

### **Senate Kills Social Security Health Bill**

After a long and bitterly fought battle between supporters for and opponents to medical care for the aged under social security, the United States Senate served the Administration its most serious defeat when it killed President Kennedy's cherished "medicare" plan.

It was a significant victory for the medical profession and our many friends in business and industry that opposed the plan because of its socialistic tendencies.

The American Medical Association had spearheaded opposition to the program, principally because of its compulsory aspects and because of the overwhelmingly wide-spread conviction among doctors that the massive governmental intrusion into the practice of medicine set forth in the plan inevitably would bring about federal bureaucratic control of medical practice with subsequent deterioration of the present high quality standards of care.

All 100 Senators participated in the show-down roll call which took place before Senate galleries jammed with spectators. Twenty-one Democrats joined 31 Republicans in tabling the bill. Five Republicans along with 43 Democrats voted in favor of the Administration measure.

Both Alabama Senators, Lister Hill and John Sparkman, voted against the Administration.

The 52-48 vote, probably the most dramatic Congressional action of the year, planted a kiss of death on the measure for this ses-

sion; for the House Ways and Means Committee had refused earlier to approve the Kennedy plan.

The Senate vote was a "low blow" to the President, for he had admitted publicly that the King-Anderson program was one of his most important legislative objectives. He had used every trick in the book to propagandize the plan.

The degree to which the Administration was stung by the Senate vote was underscored plainly by Mr. Kennedy's promptly making an unusual appearance before newsmen to term the Senate vote "a most serious defeat" for every American family.

Acting like an angry child in a fighting mood, Mr. Kennedy appeared before the press corps, television and newsreel cameras to urge voters to make medicare a major issue in Congressional elections this fall. He called upon the people to elect a Congress in November that will pass a medical care program next year. He challenged his opponents to fight this year's Congressional campaign primarily on the medical care issue.

In the most emphatic criticism he has made to date of his Congressional opponents, the President took to task Democratic as well as Republican opponents of social security health care.

Republican leaders willingly accepted the challenge, stating that they welcomed taking the issue to the voters, basing their optimism on the belief "that the American people cannot be easily confused."

Now that the scrimmage line has been drawn for the next battle, we must recruit

all the help we can in our communities and supply them with enough truthful ammunition so they can be prepared to fight against this form of socialism.

#### **Diabetes Week, November 11-17, 1962**

Officially proclaimed "weeks" have been proliferated in this country to the point of saturation. There is one, however, which should be meaningful to physicians and those they serve—Diabetes Week. Here is something that actually involves the lives and well-being of people, offering hope of control and correction.

The purpose of Diabetes Week is mass detection of the unknown diabetic. According to figures just released by the American Diabetes Association's Committee on Statistics there are approximately 3,000,000 diabetics in this country, of whom about 1,400,000 are unaware of the fact that they have the condition. This vividly underlines the urgent need of an annual diabetes detection drive.

In Alabama the average death rate for diabetes mellitus from 1955 to 1959 was 361 yearly. In 1960 it was the cause of 453 deaths, and it claimed 461 in 1961.

A good way for county medical societies to foster better public relations within their counties would be to conduct a detection drive during Diabetes Week. County medical societies can obtain from the American Diabetes Association an organizational kit which contains most of the materials needed to promote such a drive. The kit contains samples of newspaper releases, radio-TV spot announcements, posters, car cards, etc. They can also receive reagents (Clinist and Sugar Test Denco) free of charge through the courtesy of the respective manufacturers and can secure Dreyapak test strips at cost.

The only other necessary ingredient needed for a successful detection drive would be leadership. This the county medical society must supply.

To obtain your organizational kit and order blanks write to Joseph H. Crampton, M. D., Chairman of Committee on Public Education and Detection, American Diabetes Association,

1 East 45th Street, New York 17, New York before October 15, 1962.

#### **Mrs. W. G. Thuss**

At the 39th annual convention of the Woman's Auxiliary to the American Medical Association in Chicago in June our own Louise Thuss, wife of Dr. William G. Thuss, of Birmingham was made president of the 82,000 member organization.

Mrs. Thuss has worked hard and diligently for the Auxiliary on the county, state, and national levels for many years.

The Journal is greatly pleased in the selection of Mrs. Thuss for this high honor; and we are indeed grateful to her for bringing this honor to our Auxiliary, Association, and State.

#### **Alabamians Win**

##### **A. M. A. Exhibit Awards**

One of the most popular scientific exhibits at our 101st annual meeting in Birmingham this year was an exhibit on contact lenses.

This exhibit was developed by Joseph M. Dixon, M.D., Elmar Lawaczek, M.D., Charles H. Winkler, Ph.D., and Robert Francis, Ph.D. of the Medical College of Alabama.

At the recent A. M. A. meeting in Chicago the same exhibit—Pathology of the Eye and Adnexa Due to Corneal Contact Lenses—won two A. M. A. honorable mention awards. One was for ophthalmology and the other was for medical photography. Our congratulations to Dr. Dixon and his associates.

#### **Apologies**

The Journal wishes to apologize to Dr. A. H. Russakoff for omitting his name on his article entitled "We Rise To Another Challenge" that appeared as a guest editorial in the August issue.

Dr. Russakoff is a clinical associate professor of medicine at the Medical College of Alabama, a consultant in tuberculosis at the Birmingham Veterans Administration Hospital, and consultant in diseases of the chest to the Lloyd Noland Foundation.



### Medical Progress Assembly

Senator Robert S. Kerr, co-author of the Kerr-Mills law, will be the keynote speaker at the fifth annual Medical Progress Assembly at the Tutwiler Hotel in Birmingham on September 30, October 1-2.

Dr. Arthur Freeman, program chairman, is to be congratulated on securing a man of Senator Kerr's stature as a speaker, for he has been keenly interested in medical problems and in providing health services for the aged under provisions based on common sense and sound medical practice.

Dr. Freeman has also lined up an outstanding array of medical speakers for the program. They are Drs. Robert Kistner, Franz J. Ingelfinger, Henry Beecher, Bentley Colcock, Luke Gillespie, all of Boston.

Dr. Nathan A. Womack, University of North Carolina School of Medicine; Dr. Jerome W. Conn, University of Michigan School of Medicine; Dr. Robert W. Williams, University of Seattle School of Medicine; Dr. Carl V. Moore, Washington University School of Medicine; Dr. Oscar Creech, Jr., Tulane University School of Medicine; Dr. Harry E. Bacon, Temple University; Dr. Carleton B. Chapman, University of Texas Southwestern Medical School; Dr. Vincent P. Collins, Baylor University College of Medicine; Dr. Hugh B. Lynn, Mayo Clinic.

Local participants from the Medical College of Alabama include Dr. Champ Lyons, Dr. Tinsley Harrison, and Dr. Harry E. Shirley.

The Medical Progress Assembly has been approved by the American Academy of General Practice for 12 hours of Category 1 credit.

A get-acquainted social hour and buffet supper will be held Sunday, September 30, and the annual cocktail hour and dinner-dance at the Vestavia Country Club will be held Monday night, October 1.

### Influenza Vaccination

The Public Health Service has announced that September is the month to begin influenza vaccination for all persons who are most

likely to suffer serious consequences from the disease in the predicted widespread outbreaks this winter.

Influenza is particularly dangerous to pregnant women and persons suffering from chronic ailments, as well as all persons over 45 years of age, Dr. Luther L. Terry, Surgeon General of the Public Health Service, said.

He pointed out that long experience shows that these groups are at the greatest risk of serious illness or death if they are infected with influenza. Recent and past patterns of incidence indicate that many outbreaks of influenza A<sub>2</sub> (Asian) will occur in the United States during the 1962-63 winter season, he said.

Persons who have been vaccinated before will need only one additional dose, but those who have not been vaccinated before should receive two doses two months apart, and the two should be completed before mid-December.

### Life Expectancy

Life expectancy at birth reached an estimated 70.2 years in the United States in 1961, according to a recent announcement by the Public Health Service.

The estimate was based on a ten per cent sample of death records received by the National Vital Statistics Division from all 50 states.

Deaths totaled about 1,702,000 in 1961—a rate of 9.3 per 1,000 population, only slightly higher than the record low of 9.2 for 1954.

Five of the ten causes of death showed sharp rate declines as compared with last year. The declines were large enough to make it improbable that they were produced by normal fluctuations due to sampling. The five were vascular lesions; accidents; influenza and pneumonia, except of newborn; general arteriosclerosis, and diabetes mellitus.

The infant mortality rate of 25.3 per 1,000 live births set a record low, about two per cent under the previous low of 25.7 recorded in 1960.

### Why Is That, Daddy?

Several months ago I spent one of those rare delightful evenings, when my son and three of his friends chose to remain at home and chat with the old man.

The boys had finished their freshman year in college. They had bought a used station wagon and had just returned from a summer's work in Oregon. The months of June and July were spent working in a plant that devoted its efforts, 24 hours daily, seven days a week, to freezing green peas.

It seems that when the peas are ready to be harvested and frozen there is little dilly-dallying—they must be harvested and frozen, or they become unfit for home or banquet consumption.

These boys had no trouble getting a job—they worked 12-hour shifts and sometimes seven days a week. When the season was over the boss asked them to return next year. They made good money but were shocked at the payroll deductions.

Three of the boys finished their work about a week sooner than the fourth. Having nothing to do, they went to an employment agency and requested temporary work. Much to their surprise they got a call that night to report by bus to some nearby town in the mountains to fight a forest fire. The forest ranger had called for 15 men. They all arrived and had the fire out in some eight to ten hours of hard physical work. Then another 12 to 15 hours were spent eliminating, "knocking out," stumps and logs.

The boys noticed that after the fire was out, the remainder of the 15 men worked on the smoking stumps only when the boss ranger was around—otherwise they stood and talked. They learned that most of these men were drawing unemployment insurance and had been for weeks. Many of their wives were drawing it also. This was the chief topic of conversation.

The boys could not understand why these men and some of their wives, who lived in

that section, were drawing unemployment insurance, when they, and many hundreds of other men and women from all parts of the country, had come into Oregon without experience and had gotten work with ease.

My son turned to his wise old father and asked—"Why is that, Daddy?"

J. G. McDaniel, M. D.

The Journal of the Medical Association of Georgia

### Anticancer Agents

The two anticancer agents obtained by Eli Lilly and Company from periwinkle differ from each other by only a single chemical group attached to a nitrogen atom. Despite this slight chemical difference the two compounds are therapeutically different except for the fact that both exhibit anticancer effects. Tumors resistant to one of the two are sometimes responsive to the other. Also tumors that have grown resistant to one may be sensitive to the other. Vinblastine is available to physicians under the trademark name Velban. It is for the treatment of generalized Hodgkin's disease and choriocarcinoma resistant to other therapy. Vincristine is now in the early stages of clinical study.

### Socialized Medicine

The training for medicine is one of the longest and most arduous of any career. To go through it, a young man must be moved by many motives. But those would surely include a desire to make a good living, to enter a profession where he could be his own master and not a hired employee, to have the self-satisfaction of being respected by his community as "the doctor" has ever been. And not the least of the motives is a desire to give the sick person who comes to him the best care he can provide.

British socialized medicine has taken away every one of those motives, without exception . . . according to the Wall Street Journal, April 16, 1962.

### HEALTH BENEFITS—A PHYSICIAN'S VIEWPOINT

A handbook which has recently been published for "Benefit Plan Trustees" is entitled "How To Get The Most Out of Medical And Hospital Benefit Plans—A Program For Labor And Management." It originated largely from the so-called 1960 Arden House conference, which was attended by approximately forty assorted health plan executives, union benefit representatives, and government or management consultants. There were nine M.D.'s listed; but none of them, with one possible exception, spoke for the individual practicing physician.

An unmistakable thread which was interwoven throughout was the desire for ultimate control of physicians' services by these plans. It is ironic that labor, exploited for decades by fixed wages and without the strike weapon, now wants to put doctors into the same plight from which they have recently escaped. Undoubtedly, to "Get The Most Out of Medical And Hospital Benefit Plans", both labor and management would like to force physicians into the fixed-cost category of expenses. Likewise, if management could go back to the old days and control wages, with no threat of strikes, the auto industry, for instance, would have a much easier time keeping down the price of cars. There is no need to tell our friends in labor why physicians fear accepting full fixed payments. Gradual progressive inflation will continue, and the only proven way to exert enough pressure to change an outmoded wage scale is to organize and strike. Physicians can never do this for humanitarian reasons.

A further topic of interest was reported at this 1960 Arden House Conference concerning the Michigan Blue Shield Plan. In a single year, approximately three million individuals covered by supposed complete surgery pre-payment registered only 50 complaints that they had been charged over the benefit limits. However, a sample survey was stated to show that 60 to 70 per cent of surgical charges were in excess of the set limits for holders of the \$5,000 income ceiling plan. At that time, certainly something was seriously wrong with the entire concept of service benefits. A fixed fee plan, which the majority of physicians do not follow, would seem to be ultimately unworkable. Therefore, possibly in answer to this problem, Michigan has since moved toward a relative value schedule similar to that in California. At latest count 25 other states have done likewise, including now the Pennsylvania Medical Association; and this may well affect the U. S. Steel Blue Shield Service Plan. Relative values are possibly the answer to the problem of more predictable medical costs and may eventually replace fixed fee schedules.

A deficiency in this handbook is recognized by the authors but its importance minimized because of a lack of statistical data. This is the effect of human nature upon utilization of completely prepaid hospital and medical benefits. A Continental Assurance Vice-President was quoted during a discussion of comprehensive major medical plans as saying, "Health Insurance without fee schedules is a beautiful idea, but human nature just isn't



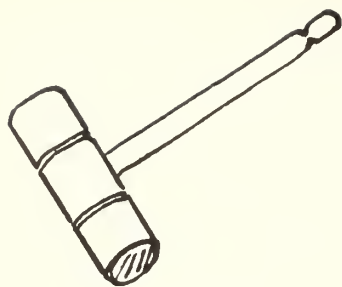
up to it." I assume he means that doctors can't be trusted; but if this be true, human nature certainly also is not up to proper utilization of benefits when they are 100 per cent prepaid. Any service that is already paid for is considered to be free; and the result is often abuse, over-use, and waste. Certain opinions to the contrary were made by a non-physician member of the conference who stated that visits to physicians were not pleasurable experiences, and people would not go unless there were good and necessary reasons. This points to a lack of understanding of a sick person's dependency upon his physician during an illness and the need for continual reassurance. There are many instances in which a factor of major importance in recovery from an illness is the economic motivation to cast it off without undue delay. Failure to understand this problem may cost the plans more health benefit dollars than actual illness, particularly if full benefits are provided with no out-of-pocket expense to the individual. Furthermore, physicians cannot be effective "insurance policemen" and question overutilization without risking loss of the involved person's confidence. A physician must maintain his patient's belief that he is on their side, not the insurance company's, although most physicians balk at out-right dishonesty. A physician cannot easily refuse a patient's request for a few more days in the hospital, or another week on sick leave, without risking loss of all the good will and confidence built up during the entire illness. This is not to say that every sick person is a potential "gold brick," but nothing can supplant the fact that an illness which is costing something gives a powerful motivation to get well. Experimentation along this line has resulted in the development of deductible and coinsurance plans. In the above mentioned handbook, however, the opinion was frequently expressed that such deterrents were unsatisfactory for widespread use. Many competent authorities in the health care field, however, would dispute this with good statistical evidence to the contrary.

There was also in this handbook a suggestion that early medical attention and preventive care might be neglected because of a \$25 to \$50 deductible feature or an 80 per cent coinsurance clause. Human nature again makes it more likely that fear, ignorance, or just plain neglect are more important causes for failure to seek medical care. In our community, polio shots can be secured free of charge at public health clinics conveniently scattered throughout the city. However, a large percent of our citizens in the recommended age group have never had the complete series of free injections. In the annual report of the Minister of Health in Great Britain, it was found that less than half of the eligible people had received the recommended immunizations, although everything is "free." The problem, therefore, is education, not free medical care. To carry this one step further, a person of average intelligence today should know that abnormal bleeding is a possible sign of cancer. If such a person prefers to postpone medical advice because he still owes on a television set, the problem here is not 100 per cent prepaid medical care but simply poor judgement.

In conclusion, credit should be given to the authors of this handbook for their valuable and fair appraisal of many other subjects covered, particularly regarding hospital costs and related problems. Unfortunately, throughout the book much comment was directed toward the "black sheep" in the medical profession. Labor and management have their share of these too, and the legal mechanisms for dealing with many of them certainly have not been completely effective.

The purpose of this article has been to present the practicing physician's viewpoint toward getting better medical and hospital benefit plans. This viewpoint was largely omitted in a recent publication for labor and management health plan trustees.

W. S. Herren, M. D.  
Birmingham



# President's Page



## SASKATCHEWAN---WHO WON?

We may find it instructive to review the salient facts leading up to the recent Saskatchewan debacle. It is interesting to note that compulsory, government-controlled hospitalization started in Saskatchewan in 1947; and other Canadian provinces followed suit in the late 1950's. The inevitable, progressive socialization of Canada, particularly Saskatchewan, ended in complete socialization of medicine and hospitals when the government announced a socialized medical plan to be effective on July 1, 1962, with the stipulation that no opposition to the plan—however slight—would be discussed or tolerated.

Some features of this socialized medical plan bitterly opposed by physicians were:

1. It was a compulsory, tax-subsidized, medical plan run entirely by government agencies.

2. It would be supported by a 5 per cent sales tax, a 6 per cent increase in income taxes, and a substantial yearly premium of approximately \$24. (The estimated costs during the first year were about 22 million dollars, which, if it follows other socialist welfare plans, is far below the actual cost.)

3. Bills would be sent to the government and be paid by the government.



*W. Clann Barron, M.D.*

4. The plan would outlaw private practice. Any doctor found practicing privately could suffer legal prosecution.

The physicians of Saskatchewan responded—vigorously but tardily—by closing their offices in protest of this statutory enslavement; and, although they assigned 240 doctors to emergency service at 34 hospitals, the press, radio, and television widely heralded the "Saskatchewan Doctors Strike!"

The exact degree of popular support enjoyed by the doctors in Saskatchewan is difficult to determine. Newsmen and others on the spot thought that it was quite strong at the outset but dwindled somewhat as the government of Saskatchewan offered what appeared to be substantial concessions. When physicians actually closed their offices, the *Globe and Mail* joined most other newspapers outside Saskatchewan in holding that this act represented a dangerous example of a small group of citizens refusing to obey a law legally enacted by a democratically elected government. The *Montreal Daily Star* said, "This is open defiance of a law duly passed by the legislature, because the doctors do not like it—this is a very extraordinary and very dangerous state of affairs." The *Toronto Daily Star* said, "Nothing in the history of the roughest trade union rivals this attempt—to use the sick and injured as hostages." These are strong statements. Will they help or hurt when the public eventually assesses the overall picture?

It is obvious to everyone, especially to physicians, that the hard socialist government of Saskatchewan directly or indirectly, by decree or by statute, by rules and regulations or by economic pressures, will implacably socialize its medical profession completely in a short time.

The Saskatchewan debacle certainly has influenced, in one way or another, the thinking of the American public; whether the idea of physicians striking against the people in protest of a law passed by a democratically elected legislature would help or hinder our effort to arouse the public realization that the King-Anderson Bill was another socialistic link in the chain being forged around professional medical care in the United States is a debatable point.

Physicians, until recently, have rarely been other than scientifically oriented in their approach to medical care. They were not charged with the necessity to correlate medical care and hospital financing. The European systems for financing medical and hospital care under the compulsory social security tax program were relatively unknown to physicians except those working for a totalitarian government.

The medical profession must strive to maintain its professional integrity, the right to make its own decisions and to use its independent judgement. Our intellectual responsibilities in medical economics must not be forfeited to any agency of government. The medical profession must effectively oppose any legislation placing medical care or hospital care under a compulsory social system by any and all legal and ethical means.

If we fail to read, think, discuss, listen—if we fail to explore new avenues of approach to the problems of financing voluntary health care—if we fail to offer rational cooperation with the purveyors of various types of health insurance—if such is the case, we are abdicating medical practice free of compulsory restraints. American people cannot be expected to support an unrelenting, inflexible attitude on the part of the medical profession; and we physicians must remember that it is their rights we protect and their needs we serve.

This socio-economic political upheaval is a battle for the mind of man—a philosophical struggle to determine if medicine is to be enslaved in America as the historic first step to the total socialization of all our people to the will of a paternalistic, centralized, bureaucratic taskmaster.

M. VAUN ADAMS, M. D.





## ORGANIZATION SECTION

### Committee On Public Relations

A meeting of the Committee on Public Relations was held at the Association building in Montgomery on July 8.

Meeting with Dr. Luther L. Hill, chairman, were Drs. J. H. Meigs; E. B. Kent; C. A. Grote, Jr.; J. R. Mighell, III; R. L. Snow, Jr.; D. F. Sullivan; J. G. Daves; D. G. Gill; W. E. Lawrence; and J. M. Chenault.

To expedite matters, Dr. Hill divided the members into two subcommittees.

The subcommittee on Interprofessional Relations and Miscellaneous Affairs, under Dr. Mighell's chairmanship, discussed the merits of sponsoring the annual essay contest. The committee voted to conduct the contest for another year and then make an evaluation. "America's Health—Ours to Preserve" was selected as the subject of this year's contest.

The committee approved the program for this year's Athletic Injuries Conference and agreed to continue the project for one more year. It was the opinion of the committee that a closer working relationship should be established with University of Alabama officials in order to arrange a better program and a more desirable meeting hour.

In reviewing the activities of the Physicians Placement Service, it was reported that 13 communities had been assisted in obtaining physicians since January 1, 1962, and that 24 physicians have been placed in Alabama by the bureau.

It was reported that the newly initiated two-day course for medical assistants was very successful. The committee endorsed

co-sponsoring the program with the University of Alabama Extension Department and the Alabama Medical Assistants Association for another year.

A letter from the Jaycees requesting the Association to print a brochure on the effects of alcoholism for distribution during National Alcoholism Information week was read. It was the opinion of the committee that this should be done since it is a form of preventive medicine.

At Dr. Hill's subcommittee meeting Dr. Lawrence reported that a film depicting the progress of medicine in Alabama had been completed and will be available to medical groups for the next six months. After that it will be released for public showing. It was decided that county medical societies should schedule the film with as many civic groups as possible.

Dr. Lawrence stated that there are now about 85 weekly newspapers receiving "Your Health" articles; this is 35 per cent increase over last year. It was suggested that the daily papers be asked to print the articles.

In reporting on the Orientation Program, Dr. Kent stated that 89 replies to a questionnaire mailed to those who attended this year's program had been received. Forty-nine favored repeating the same program next year. Five suggested that the program should be dropped. The remaining 25 voted to change the program with certain additions and deletions. Following a discussion, the committee decided on the following: that the talks on investments and medical auxiliary be deleted; that the discussion on "Alabama Medi-

cal Organization" be interspersed with the comments from the State Board of Censors. It was suggested that the part on "Where Do the Annual Dues Go" should be combined with the comments of Dr. Gill and Dr. Jones.

The subcommittee voted to hold the County Medical Society Conference in February of next year.

### Annual Meeting Committee

The new Committee on Annual Meeting met for the first time on July 29 in the Association building.

Attending the meeting were Drs. G. W. Newburn, chairman, Hal Ferguson, H. G. King, W. L. Smith, M. Vaun Adams, and J. P. Collier.

Dr. Adams announced that he is planning to schedule the orientation program for the first thing on Thursday morning and that three section meetings will be held that afternoon. There will be a section on surgery, one on medicine, and one on obstetrics and pediatrics.

Dr. Adams asked the committee to consider changing the day of the meeting to Friday, Saturday, and Sunday. It was pointed out that the constitution states the business session shall be held on the last day of the meeting, thus the legality of holding the meeting on Sunday must be investigated. The committee discussed the matter and considered the possibility of recommending to the Board of Censors a change in the order of business for annual sessions. A survey of the membership will be taken on this matter.

The committee then discussed registration fee, finances, exhibitors, and social functions. The only action taken was on the latter. The committee recommended that social functions be separated from the scientific and business affairs of the meeting and that a separate organization be formed to handle the social activities.

### Committee On Aging And The Indigent

At the request of the Department of Pensions and Security the Committee on Aging

and the Indigent met with Mr. Alvin Prestwood, Mrs. Margaret Jorden, Miss Odell Carmichael, Miss Mary Proctor, Miss Kitty Austin, and Mrs. Elizabeth Bryan on August 1 in the Association Building.

Committeemen present included Drs. J. G. Galbraith, chairman, J. O. Morgan, Champ Lyons, J. Michaelson, E. R. Johnston, J. J. Kirschenfeld, and S. N. Rumpalos.

Mr. Prestwood reviewed for the committee the work that was involved in implementing the Kerr-Mills Program in Alabama and pointed out advances that have been made in both the Old Age Pension (H.O.A.P.) and Medical Aid to the Aged (M.A.A.) programs.

He informed the committee that funds for the Kerr-Mills Program in Alabama will be increased by approximately a half million dollars this year and asked the committee for suggestions on how this additional money should be spent.

He announced that hospital care under the M.A.A. program would probably be increased from 15 to 30 days per year.

He further requested an opinion on including home calls under the present post hospitalization portion of the program. The committee stated that physicians should be paid for home calls as well as office calls. There was no suggestion of an increase in the allowance under this portion of the program.

It was the opinion of the committee that the program should be expanded by providing medical services to nursing homes, as this is presently one of the most pressing problems.

Mr. Prestwood asked the committee to express an opinion on the possibility of initiating a physicians' program not related to nursing homes and hospitals. Members of the committee—judging from the discussion—felt that this would be a controversial program and did not recommend such an extension at this time. The committee re-affirmed its belief that the most important area for consideration at this time is medical service to persons in nursing homes.



## ASSOCIATION FORUM

### AMERICA'S HEALTH---OURS TO PRESERVE

AUBREY RILEY

Alexander City, Alabama

Once upon a time, there lived in a small village, an old woman who couldn't make up her mind. She put off decisions, hoping her problems would somehow settle themselves. Since they rarely did, her life became a series of untidy crises.

Then, one day she had an idea. "I know what I'll do," she said, "I'll have other people make up my mind for me. That way I won't have the trouble of deciding, but the decision will still be made."

Delighted with this notion, she sat right down to list all the current decisions to be made. Her list looked like this.

What kind of roast should I have Sunday?

What should I do about the leak in the roof?

Why are my rose bushes dying?

"Now then," she asked herself, "who should make up my mind for me?" Picking up her pencil, she wrote the name of the

village druggist next to the first question, the shoemaker's next to the second, and the milkman's next to the last.

"Thank goodness," she sighed, "that's done! Now my troubles are over!"

As matter of fact, they had just begun. Though the druggist, shoemaker, and milkman were all trained in their own areas, they had no expert knowledge about the questions she was asking. Consequently, the old woman ended up with a tough roast, a leaky roof, and dead rose bushes.

This may sound like just a foolish fairy tale, but it has application in modern day America. On a health issue of overriding importance, many of us are deciding exactly as the old woman did. We are asking the right questions but of the wrong people.

When we suffer pain of any kind that we don't recognize as common and pain that does not disappear after a while, we tend to worry about it for a while. Then we consult neighbors, mothers, friends or someone we trust, rather than a physician.

Because he appears to be in good health, that person, whose advice may be in good

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Mr. Riley is a graduate of Benjamin Russell High School in Alexander City and won second place in this year's essay contest.



faith, may cause us to be maimed for life or to bring about our early deaths by not advising us to see a doctor. He might say "Why that's not unusual. I have the same kind of pain all the time." He could be suffering from the same illness which could turn into some incurable disease unless diagnosed by a physician and treated in time. All the time spent worrying about a disease and asking advice from untrained people gives the disease that much more hold on you.

Doctors should be consulted at the start of irregular body disturbances. If treated in time, ninety-nine per cent of all diseases can be cured. Moreover doctors keep a person informed on what particular things he as an individual needs to do to build up his resistance.

America's health is ours to preserve. Especially it is ours, as an individual, to preserve. We as individuals can help preserve America's health by keeping informed on our own personal health by regular check ups. Too, we can fight disease and preserve health by contributing to health drives such as the March of Dimes. Organizations such as the March of Dimes save thousands of lives every year by paying for extremely expensive operations which few patients can afford.

Another way of preserving America's health is by keeping ourselves well fed with the right foods. It is true because every cell in your body has to be fed to grow and repair. The better we are fed with the essen-

tial vitamins, minerals, and protein, the better our health is and the better we feel. Every person in the home should be aware of the seven basic food groups. Each should do his part to remind the food supplier, the cook, and the food purchaser that every one needs a balanced diet.

Another way to fight disease and preserve health and at the same time make our bodies strong and physically fit is to exercise them in recreational activities. The average American's body, up to eighteen years of age, is one of the strongest and most physically fit bodies in the world. However, after eighteen the average American sits on himself and lets his body wither from neglect.

The four ways to keep healthy are by keeping informed by regular check ups, by contributing to research organizations, by eating the right foods, and by recreation. Each American must accept the responsibility of protecting his own health. Through the combined efforts of "We, the People" our Nation will be vigorously strong and mentally alert. Thus, America's health is ours personally to preserve.

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# WORLD MEDICAL MERGER

## *CARE and MEDICO Seek Lower Costs, Increased Efficiency and Better Service*

HOWARD A. RUSK, M. D.

Each day the financial pages of this newspaper and others carry stories of corporate mergers. The reasons behind such mergers are usually the same—increased efficiency, lower administrative costs, expanded services and greater dividends for stockholders.

Last Wednesday, two of our largest and most respected voluntary agencies concerned with international assistance, CARE and MEDICO, announced a merger effective next month.

The reasons for this merger are the same—increased efficiency, lower administrative costs and expanded services. The only basic difference is that the greater dividends will be shared by the millions of Americans who contribute to CARE and MEDICO and the millions of persons in underdeveloped nations who benefit from their programs.

CARE was founded in November, 1945, as the Cooperative for American Remittances to Europe to meet the immediate needs of European nations shattered by war.

### **Change in Emphasis**

The current name, Cooperative for American Relief Everywhere, signifies the changes in its emphasis over the last sixteen years.

The volume of aid it has given during this period has been around a half-billion dollars.

As its name implies, CARE is a cooperative of twenty-five member agencies, including leading service organizations.

As conditions improved in Europe, CARE terminated its services in many European nations and started programs in the developing nations of Asia, the Middle East, Latin America and Africa. Services are now given in thirty-two nations.

Newest members of the CARE "family of nations" are Liberia, Cyprus and Sierra Leone and negotiations are being conducted on the possibilities of establishing CARE missions in Nigeria, Cameroon, Tanganyika, the Dominican Republic and British Honduras.

CARE is best known for its program under which thousands of tons of food and other essentials have been sent to more than fifty countries. Last year these shipments included surplus agricultural commodities, valued at \$33,700,000, contributed by the United States Government.

### **Governments Cooperate**

Such supplies are usually used for school lunch and institutional feeding programs

conducted in cooperation with the host government and for family-welfare and disaster-relief feeding.

Of equal importance, however, is the second aspect of the CARE program under which the tools of education, health and self-support are provided the needy to aid them in helping themselves.

Thus, a "CARE package" may be a steel pipe for a community self-help project on pure water in Iran or equipment for fishing boats in a cooperative economic project in Korea, Vietnam or Hong Kong.

The range of self-help supplies vary from wheelchairs to mobile health units and from sewing machines to bullocks.

MEDICO, founded in 1958 by the late Dr. Tom Dooley and Dr. Peter Comanduras, was organized to establish hospitals and provide American physicians and personnel to staff them in newly developing areas. It follows the same "people to people" concept of CARE, except MEDICO is "physicians to people."

MEDICO is undertaking or organizing seventeen projects in remote villages in jungle and mountain areas of Laos, Kenya, Cambodia, Vietnam, Malaya, Afghanistan and Haiti. In each instance, the projects are undertaken at the invitation of the host government.

### **250,000 Treated**

In the last two years these programs have treated 250,000 persons. In addition MEDICO has shipped abroad gifts of drugs and other medical supplies valued at more than \$3,000,000.

One of MEDICO's special projects is an International Eye Bank. Under this program, American ophthalmologists travel to

remote places taking with them a supply of preserved human corneas contributed by American eye banks from surplus stock.

The corneas are transplanted in the eyes of the blind to restore sight. At the same time, the techniques of the operation are taught to local ophthalmologists.

Another special project, known as Orthopedics Overseas, consists of leading American orthopedic surgeons going to a country on a rotating basis to provide surgery and teach.

This program, which started in Jordan, has been expanded to Saigon and Vietnam, and will eventually include countries in South America and Africa.

### **Affiliations Spread**

The MEDICO program has been strengthened during the last year through affiliations with ten of the leading American medical and surgical specialty groups, including the American College of Surgeons and the American College of Physicians.

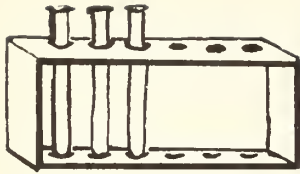
That the American people believe in CARE and MEDICO is shown by their consistent increased support of these voluntary organizations. Contributions to CARE, for example, have doubled since 1956.

Under the new merger, MEDICO will continue and expand its current program, but as a service of CARE. CARE will gain a professional arm for the medical supplies and equipment that form part of its self-help assistance.

Food, tools and professional skills will be combined in a joint assault on mankind's greatest enemies—hunger, poverty and disease.

*Reprinted from the New York Times, Sunday, January 28, 1962.*





# STATE DEPARTMENT OF HEALTH

## INDIGENT CANCER SERVICES

W. H. Y. SMITH, M. D.

Director Of Bureau Of Preventable Diseases

Many doctors in the State have become disturbed and have grown weary with the constant refusal of cancer clinic service for their indigent cases. Action, voices and words have shown their disgust.

But poverty in State operations is just as strong and unyielding as poverty in the individual.

At the beginning of the State's fiscal year on October 1, 1961, \$140,000 was available for indigent cancer services. The average cost for cancer hospitalization was \$200.00 for each individual. But included in this average cost were expenses for those patients who remained but a few days for X-ray or radium therapy, or for diagnosis, and those found non-malignant, and for those who only required out-patient clinic services.

However, for hospitalization and treatment of malignant cases there was an average cost of \$301.11, with certain types of cancer averaging in the very high brackets. To cite a few of these, cancer of the esophagus cost \$588.55; cancer of the mouth \$541.31; cancer of the rectum \$624.82. The high cost of hospitalization of brain, lung or blood cancer exempted those types from even being considered for hospitalization.

To recapitulate—\$140,000 is appropriated for the cancer treatment program. From this must be subtracted about \$17,500 for out-patient services. This leaves \$122,500 for treatment of cancer cases, which means that barring all complications no more than 408 cases could be hospitalized. And so our plight is desperate and it will remain so until more money can be appropriated for cancer services.

### Malignant Cases

#### Average cost of certain types

Site	No. of Patients	Amount	Average Cost
Breast	88	\$24,069.52	\$274.64
Cervix	158	60,327.43	381.82
Esophagus	7	4,119.77	588.55
Larynx	9	3,029.31	226.59
Lip	22	3,727.86	169.45
Mouth	9	4,871.82	541.31
Ovary	7	2,080.59	297.22
Prostate	10	4,154.43	415.44
Rectum	14	8,747.54	624.82
Skin	103	18,419.94	178.83
Stomach	12	5,234.52	436.21
Uterus	17	5,823.45	342.55
Vagina	9	4,729.32	525.48

# DEPARTMENT OF HEALTH

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

### SPECIMENS EXAMINED

July 1962

Examination for malaria.....	12
Examinations for diphtheria bacilli and Vincent's.....	44
Agglutination tests.....	426
Typhoid cultures (blood, feces and urine)...	402
Brucella cultures.....	1
Examinations for intestinal parasites.....	2,757
Darkfield examinations.....	4
Serologic tests for syphilis (blood and spinal fluid).....	24,365
Examinations for gonococci.....	1,804
Complement fixation tests.....	80
Examinations for tubercle bacilli.....	3,518
Examinations for Negri bodies (smears & animal inoculations).....	330
Water examinations.....	2,817
Milk and dairy products examinations.....	4,108
Miscellaneous examinations.....	4,706
<b>Total</b> .....	<b>45,374</b>

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## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

### CURRENT MORBIDITY STATISTICS

1962

	June	July	*E. E. July
Tuberculosis.....	136	97	176
Syphilis.....	127	112	143
Gonorrhea.....	310	436	323
Chancroid.....	3	1	2
Typhoid fever.....	1	0	3
Undulant fever.....	1	1	1
Amebic dysentery.....	17	4	1
Scarlet fever and strep. throat.....	16	15	29
Diphtheria.....	0	0	3
Whooping cough.....	10	11	21
Meningitis.....	2	2	5
Tularemia.....	0	0	0
Tetanus.....	2	3	3
Poliomyelitis.....	1	1	11
Encephalitis.....	0	0	1
Smallpox.....	0	0	0
Measles.....	175	74	140
Chickenpox.....	38	4	23
Mumps.....	28	20	41
Infectious hepatitis.....	79	70	31
Typhus fever.....	1	0	0
Malaria.....	0	0	0
Cancer.....	878	642	563
Pellagra.....	3	0	0
Rheumatic fever.....	14	24	9
Rheumatic heart.....	42	47	17
Influenza.....	48	8	20
Pneumonia.....	203	95	114
Rabies—Human cases.....	0	0	0
Pos. animal heads.....	8	3	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

### PROVISIONAL BIRTH AND DEATH STATISTICS, JUNE 1962, AND COMPARATIVE DATA

Live Births Deaths Causes of Death	Number Registered During June 1962			Rates* (Annual Basis)		
	Total	White	Non- White	1962	1961	1960
Live Births.....	5,710	3,656	2,054	20.8	22.0	22.0
Deaths.....	2,307	1,465	842	8.4	8.3	8.3
Fetal Deaths.....	109	54	55	18.7	23.2	23.7
Infant Deaths— under one month.....	140	68	72	24.5	23.2	23.4
under one year.....	179	78	101	31.3	31.1	30.0
Maternal Deaths.....	5	1	4	8.6	3.3	6.6
<b>Causes of Death</b>						
Tuberculosis, 001-019.....	23	11	12	8.4	7.4	7.1
Syphilis, 020-029.....	8	5	3	2.9	1.5	2.2
Dysentery, 045-048.....	3	1	2	1.1	0.4	
Diphtheria, 055.....						
Whooping cough, 056.....					0.4	0.4
Meningococcal infec- tions, 057.....						0.7
Poliomyelitis, 080, 081.....	1	1		0.4	0.4	
Measles, 085.....					0.4	0.7
Malignant neoplasms, 140-205.....	314	214	100	114.4	114.8	102.9
Diabetes mellitus, 260.....	33	21	12	12.0	14.4	14.2
Pellagra, 281.....						
Vascular lesions of central nervous sys- tem, 330-334.....	317	202	115	115.5	117.4	119.3
Rheumatic fever, 400-402.....	2		2	0.7		0.7
Diseases of the heart, 410-443.....	772	528	244	281.3	282.7	275.6
Hypertension with heart disease, 440-443.....	34	17	17	12.4	61.1	38.0
Diseases of the arteries, 450-456.....	46	27	19	16.8	15.1	17.2
Influenza, 480-483.....	8	3	5	2.9	1.8	3.4
Pneumonia, all forms, 490-493.....	42	25	17	15.3	19.9	16.4
Bronchitis, 500-502.....	1	1		0.4	0.4	1.1
Appendicitis, 550-553.....	2	2		0.7		0.7
Intestinal obstruction and hernia, 560, 561, 570.....	16	11	5	5.8	3.7	3.7
Gastro-enteritis and colitis, under 2, 571, 0, 764.....	10		10	3.6	2.2	1.9
Cirrhosis of liver, 581.....	5	3	2	1.8	5.9	7.1
Diseases of pregnancy and childbirth, 640-689.....	5	1	4	8.6	3.3	6.6
Congenital malforma- tions, 750-759.....	36	25	11	6.3	3.8	5.1
Immaturity at birth, 774-776.....	51	13	38	8.9	7.5	9.3
Accidents, total, 800-962.....	174	129	45	63.4	61.8	74.2
Motor vehicle acci- dents, 810-835, 960.....	81	64	17	29.5	30.6	37.3
All other defined causes.....	335	208	127	122.1	115.6	110.4
Ill-defined and un- known causes, 780- 793, 795.....	103	34	69	37.5	43.1	35.4

\*Rates: Birth and death—per 1,000 population

Infant deaths—per 1,000 live births

Fetal deaths—per 1,000 deliveries

Maternal deaths—per 10,000 deliveries

Deaths from specified causes—per 100,000 population

# *The Woman's Auxiliary*

Fall is with us again, and the time has come to get settled down to work again. I hope all of you have had a wonderful vacation and are ready to begin. Last month I relayed to you the challenge from our "first lady," Louise Thuss, contained in her theme, "Aim for Excellence in Achievement." I promised her our complete cooperation in reaching this goal. Each day presents new challenges; and if we are to be successful, each of us must do her part.

The past weeks have been busy ones. There were letters to write, lists to compile, plans to be made. I spent much time in Montgomery with the Association staff. Their understanding and patience along with much assistance makes it possible to report that we have things well in hand.

The Yearbooks will be ready for distribution at the Fall Meeting of the Board this month. We have our new stationery (attractive, don't you think?). WAMASA NEWS has a beautiful new format. Our congratulations go to Mary Rose Littlejohn and Dot Romine and sincere appreciation to Bill Nesbitt, Nell Williford, and John Frazier for invaluable aid. We could not get along without them.

One of the nicest things about being Auxiliary president is the opportunity of knowing the wonderful people at Association Headquarters and working with them. In addition to those mentioned above I include on my list of very special friends, Joyce Fisher, Emmett Wyatt, Bill Dozier, Dub Wallace, and Dr. Smith. No president was ever so fortunate as I.

All doctors' wives are invited to the Board meeting this month. It will be in the Whitley Hotel, Montgomery, September 18-19. Officers and committee chairmen will present



MRS. JOHN KIMMEY

their plans for the coming year. We will exchange ideas and discuss mutual problems. We have an important business session, and there will be outstanding speakers. It will not be all work either. Husbands are invited to attend the Dutch dinner on Tuesday evening, September 18th. Make your plans, pack your bags, and join us for both days. We need you, and you may be surprised at what goes on. When I report the meeting, help me to be able to say, "We had the best attendance ever."

Our thanks to the Montgomery Auxiliary for being our hosts and for planning such an interesting meeting. Please consider this a personal invitation and meet us there.

*Ida Kimmey*

President



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## Fibrocystic Disease of the Breast

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New York, New York

In 1893 Konig wrote of this disease of the breasts and believing it to be inflammatory in origin called it chronic cystic mastitis. Many other terms have been used to describe it or one of its various stages such as chronic mammary induration by Velpeau in 1838, Cooper's disease, Reclus' disease and Schimmelbusch's disease following their descriptions of this condition in 1845, 1880 and 1890, mammary dysplasia, fibrocystic disease, cystiphorous desquamative epithelial hyperplasia (Cheattle), fibro-adenomatosis (Scandinavian), mastodynia, mazoplasia, diffuse mammary dysplasia, adenosis, adenocystic

disease, benign parenchymatous hyperplasia, solid mammary dysplasia, cystic disease (Haagenson) and cystic type of mammary dysplasia. However, the term chronic cystic mastitis has remained the one most widely adopted despite the fact that it is a misnomer since the disease is in no way related to an inflammatory condition.

### Incidence

Fibrocystic disease, which is the term I prefer, is by far the most common lesion of the breast even if only patients with cysts or nodules large enough to be evident clinically are considered. Its true incidence is unknown. Stout suspects that "almost all women over thirty years of age, regardless of marital or lactational history, have affected mammary glands to a greater or lesser degree". Ackerman and del Regato feel that its incidence is directly proportional to the liberality of the pathologist in diagnosing such a lesion and thereby account for the variance in the reported incidence of this disease in

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Presented at the Alabama Division, United States Section, of the International College of Surgeons meeting in Birmingham, Alabama, on March 29, 1962.

From the Breast Surgery Service, New York Medical College—Metropolitan Medical Center.

the literature. Clinically over  $\frac{1}{3}$  of patients between 20 and 45 years of age show some evidence of this condition on routine examination. The study of breasts at autopsy shows that the true frequency of this disease is even greater than its clinical incidence. Borchardt and Jaffe reported an incidence of 93 per cent in a series of 100 female autopsies over the age of forty who did not have clinical evidence of mammary disease. Frantz, Pickren, Melcher and Auchincloss found cytologic evidence of fibrocystic disease in 53 per cent of 225 post-mortem examinations of so-called normal breasts.

### Etiology

Fibrocystic disease is infrequent after the menopause and usually becomes clinically evident during the third decade of life and reaches its greatest frequency during the fourth decade. This fact of the clinical occurrence of fibrocystic disease in middle life when ovarian function has been at peak level for some years and its rarity after menopause suggests that ovarian hormone variations are responsible for it. Geschickter feels that the changes are due to inadequate progesterone secretion of the corpus luteum or of increased estrogenic production or that it is caused by some disturbance of the integrated action which these two ovarian hormones exert normally on the mammary gland.

Hormone excretion studies have shown wide variations with no definite pattern in fibrocystic disease so that they can't be used as a guide in the detection and correction of hormonal imbalances.

The clinical improvement of patients with fibrocystic disease of the breasts during pregnancy and lactation is well known. Nodularities, tenderness and even cysts usually disappear after mid-pregnancy and the breasts are normal to palpation during lactation. This is apparently due to the influence of the luteal hormones elaborated by the corpus luteum and the placenta and points out the possibility of inadequate production of these

hormones as an etiological factor in this disease.

A great deal of work has been done on the effects of hormones upon the breasts of rodents and other animals, but the effects on humans and the correlation with animal studies is difficult to evaluate. There is no question, however, that the use of estrogens in mice produces fibrocystic disease with dilatation of ducts and epithelial proliferation and that prolonged usage can lead to progressive changes and cancer. These changes can be prevented if the ovaries are luteinized and the mice are made pseudopregnant by administering pregnancy urine hormone. This again, as in pregnancy, indicates the beneficial effects of the luteal hormones in fibrocystic disease of the breasts.

As shown by Biskind the liver regulates the level of most endogenous and exogenous hormones through its enzyme system by transforming steroids of one type to another and by metabolizing certain ones to an inactive state. In liver disease estrogen cannot be inactivated and in patients with nutritional deficiencies with inadequate B complex vitamins, the liver no longer inactivates estrogen but it continues to inactivate testosterone leading to an alteration of the estrogen-androgen pattern in the body with resulting appearance of the so-called "hyper-estrogen syndrome".

The common clinical finding of a definite involvement of one breast by fibrocystic disease with little change in the contralateral breast and the development of localized areas of disease points out the importance of a hypersensitivity of response of certain breast tissue to etiological stimuli.

As emphasized by Taylor and by Pierce and Slaughter, there is a high incidence of pelvic disease in patients with fibrocystic disease, the correction of which often improves the status of the breasts.

Further clinical evaluation is needed on the effects of pituitary disturbances and hy-

pothyroidism and the results of excessive fluid retention and engorgement of the breasts in the premenstrual phase as etiological factors in this disease of the breasts.

Despite the vast amount of clinical and experimental research that has been done, however, the exact etiology of fibrocystic disease still remains a debatable one.

### Pathology

In chronic fibrocystic disease there are varied degrees of alteration of the epithelial and fibrous tissues of the breast with or without cyst formation and with pathological and clinical findings varying upon the type of alteration that predominates.

Dilatation of the ducts and acini results in the formation of micro and macrocysts which contain a typical thin, turbid, yellow or green fluid.

Papillomatosis results from a hyperplasia of the epithelium lining the ducts and acini while metaplasia of this epithelium brings about the pathological picture of apocrine epithelium with the normal cuboidal cells changing to a cylindrical shape with small nuclei and pale acidophilic cytoplasm.

The multiplication of small ducts results in blunt duct adenosis and acinar multiplication results in florid adenosis or in sclerosing adenosis if accompanied by marked secondary fibrosis.

While fibroblastic proliferation commonly accompanies epithelial proliferation in adenosis, it is rare by itself but occasionally a tumor from proliferation of the fibrous tissue only occurs which is called fibrous disease.

It is in the group of patients with atypical papillary hyperplasia evidenced by layering of epithelial cells or the production of "new acini within acini" or the formation of papillae covered by well differentiated cells but with some nuclear irregularity and hyperchromatism that fibrocystic disease is considered by the author and many other observers to be a precancerous lesion.

### Clinical Picture and Diagnosis

Clinically fibrocystic disease is divided into one of three stages or groups. Although all patients obviously will not fit exactly into one of these groups because of an overlapping of signs and symptoms, the characteristics of one group usually predominate.

The first stage appears in young women usually in their second or the first part of their third decade. It is variously called mastodynia, mazoplasia, painful breasts and diffuse mammary dysplasia.

The patient complains of pain and possibly a tender swelling which predominates in one breast and is usually in the upper outer quadrant. At first the pain is confined to the premenstrual period, but as it progresses and becomes more severe, it lasts throughout the cycle although it is aggravated before the menses.

The patient is often thin, intense and emotional with a history of difficulty in becoming pregnant and of short menstrual periods (21 to 24 days) and often has associated gynecological disorders.

On examination a tender, firm, swollen, diffusely thickened area can be felt in the upper outer quadrant of the breast, but no definite mass is palpable. In cases subjected to biopsy the tissue is found to be more dense and fibrous than normal, and varied types of epithelial and fibrous tissue changes can be seen microscopically.

The second group is known under the names of adenosis, adenocystic disease, Schimmelbusch's disease, benign parenchymatous hyperplasia and solid type of mammary dysplasia. It occurs in a slightly older age group than does mastodynia, most patients being in their late thirties or early forties.

The patients have a long standing history of breast pain that is worse in the seven to ten days before menstruation. They are usually nervous and underweight and often have a history of low fertility and irregular menses.



The breasts are usually small, dense and edged like a saucer with multiple nodules in one or both breasts varying from 1 mm. to 1 cm. located chiefly in the periphery of the upper outer quadrants and with pain and tenderness most marked in the premenstrual period. The disease, however, does occur in large and pendulous breasts. All types of epithelial and fibrous tissue alterations can be seen with usually one type predominating. Often a localized tumor area is found due to a circumscribed area of multiple small cysts with secondary fibrosis, an area of blunt duct or sclerosing adenosis or an area of fibrous disease. Pain and tenderness are not as marked as in mastodynia. The tumor mass which is firm, irregular, not well delineated, non-mobile and which transilluminates opaque or semi-opaque is difficult to differentiate from cancer. In about ten per cent of cases, skin dimpling is seen and in long standing cases, axillary lymph nodes may be palpable.

The third group is called cystic disease, Cooper's disease, Reclus' disease if the cysts are multiple, or cystic type of mammary dysplasia. In this group of patients large cysts occur from one to several centimeters in diameter. These appear at or near the menopause in patients who may have an associated hypothyroidism. They are usually solitary but just under 30 per cent are multiple and about ten per cent are bilateral. Multiple cysts or Reclus' disease usually occur in patients about ten years younger than those with solitary cysts.

The cyst usually arises abruptly in a previously normal breast with some associated sticking or stinging pain. It commonly occupies a region midway between the nipple and the periphery of the breast. It is a tense, cystic, rounded, well delineated, mobile, slightly tender mass that transilluminates clear. Deep lying cysts embedded in a dense fibrous stroma may feel hard and simulate a solid tumor.

Aspiration of the cyst yields a thin, turbid, smoky, yellow or green fluid that shows no

malignant cells on cytological examination. When the cyst is exposed at operation, it has the typical "blue-domed" appearance as described by Bloodgood. It has a thin fibrous wall with an epithelial lining of duct cells and is embedded in a thick fibrous mammary stroma.

While, as emphasized by the author in a previous article, the great majority of serous, serosanguinous or bloody nipple discharges are due to intraductal papilloma, they are also produced by carcinoma, especially of the papillary type, and by fibroadenoma, advanced duct ectasia and fibrocystic disease especially of the papillomatosis type.

Mammography as described by Berger and Gershon-Cohen and Egan is a most valuable diagnostic aid in the study of patients with fibrocystic disease and the differentiation of these lesions from carcinoma. Fibrocystic disease gives a characteristic dense, interlacing of the septa and cysts are homogeneous, smooth-bordered and non-invasive. Carcinoma is manifested as a dense, irregular mass with spicules penetrating into the surrounding tissue. Often there are small punctate densities resembling grains of salt which are almost pathognomonic of malignancy. I have found mammography to be of great help in the study of breasts with nipple discharge, in the sclerosing adenosis type and fibrous disease type of fibrocystic disease with a mass that is clinically difficult to differentiate from carcinoma and especially in breasts with multiple nodules.

### Relationship to Carcinoma

Farrow in his section on the treatment of chronic mastitis in Pack and Ariel's book on the Breast, Chest and Esophagus states that "the problem of cancer and chronic mastitis has engaged the attention of numerous observers for over one hundred years. Too often, opinions have been expressed on the basis of speculation rather than factual data".

Our present information is not conclusive enough to state with any exactness the pre-

cancerous nature of fibrocystic disease, but certain factors certainly point to a relationship of fibrocystic disease to cancer of the breast.

While the effects on humans and the correlation with animal studies is difficult to evaluate, extensive studies have shown that the use of estrogens in rodents and other animals produces fibrocystic disease and that prolonged usage can lead to progressive changes and cancer.

In mastectomy specimens removed for cancer, microscopic changes of fibrocystic disease occur in a large percentage of cases being appreciably greater than the reported incidence in non-cancerous breasts. McCarthy and Mensing found fibrocystic disease associated with cancer of the breast in 100 per cent of cases studied, Stout in 80 per cent, Semb in 77 per cent, Kiaer in 60 per cent and Logie in 56.7 per cent.

Ryan and Coady found the degree and frequency of intraductal epithelial proliferation to be higher in breasts removed because of carcinoma than in breasts free of malignant disease removed post mortem. The incidence of intraductal proliferation was 12 per cent in 719 tissue blocks from non-malignant breasts of women about 56 years of age and 49 per cent in 628 specimens from malignant breasts removed from women about 53 years old. Advanced hyperplasia was seven times more common in malignant than in non-malignant breasts.

Patients with clinically detectable and operatively proven fibrocystic disease subsequently develop carcinoma at three to four times the expected breast carcinoma rate of that in the general female population. Increased incidence rates of breast carcinoma in these patients over the expected rate have been reported by Warren, Lewiston and Lyons, Geschickter, Clagett, Plimpton and Root, Kiaer, Haagenson and others.

In a study of 282 patients with fibrocystic disease of the breast followed for an average of 9.6 years, Davis, Simons and Davis concluded that fibrocystic disease without intra-

ductal epithelial hyperplasia did not seem to be related to carcinoma, but in the type with hyperplasia carcinoma occurred at 3.1 times the normal incidence rate and that it seemed to be related to comedo carcinoma and possibly to papillary carcinoma but not to scirrhous carcinoma.

McLaughlin, Schenken and Tamisiea believe that fibrocystic disease showing atypical hyperplasia as evidenced by either layering of the epithelial cells into several rows or the production of new acini within acini is definitely precancerous, and that those cases showing more progressive changes consisting of the formation of papillae covered by well-differentiated cells but with some nuclear irregularity and hyperchromatism are non-invasive forms of malignancy.

Foote and Stewart in their classic work state that "Statistical and morphologic studies indicate that chronic cystic mastitis does play a role in the development of human breast cancer. How large this is we cannot state. Our studies suggest that its part consists largely in those papillary hyperplasias which in some individuals for reasons unknown become cytologically atypical".

### Medical and Surgical Treatment

Medical therapy in fibrocystic disease is used in an attempt to cause regression or to prevent further advancement of the disease process. If there are any clinically questionable areas in the breast, these of course should be biopsied to rule out carcinoma and all patients should be followed carefully with regular breast examinations at three to four month intervals.

Therapy is directed towards increasing possible inadequate progesterone production, neutralizing or balancing possible excessive estrogen secretion, improving the status of liver function by high protein diet, crystalline B vitamins and crude liver preparations so that it can adequately inactivate estrogens, preventing excess fluid engorgement of the

breasts in the premenstrual phase by a dehydration regime, correcting any gynecological disorders, and restoring any patients with hypothyroidism to euthyroid states. After following many different procedures I have found that the following method has given the best results to date in my hands:

1. The intramuscular injection of 10 to 25 mg. of progesterone in oil on the twenty-first day of the menstrual cycle and 25 mg. of testosterone propionate on the first day of the menses for a period of three to six months with repeat courses when necessary.

2. Novogran Tablet®.\* One daily after breakfast.

3. Methischol Capsules®.\* One to three capsules three times daily after meals.

4. High protein, low fat diet.

5. The use of a modified Whorton's regime by limiting the daily fluids to less than 1500 cc., abstaining from salt and taking one 50 mg. tablet of Hydrodiuril®\*\* after breakfast daily for ten days before each menstruation.

6. Advising the patient to wear a good up-lift breast support.

7. Correction of any associated gynecological disorders.

8. The administration of thyroid if hypothyroidism exists.

Medical therapy is not intended to replace surgery when indicated, but it is a worthwhile procedure for those patients with fibrocystic disease who do not have a localized area requiring biopsy and for postoperative patients where the diagnosis has been accurately established.

Surgical excision of any questionable tumor area in the breast is mandatory to rule out cancer and to determine if there is evidence of atypical epithelial hyperplasia in-

dicating a precancerous condition. Aspiration and cytological examination of the typical thin, turbid, yellow or green fluid is often all that is necessary in the treatment of cysts. In about one-third of the cases the cyst refills after aspiration and the procedure has to be repeated. Usually after about two to three weeks the breast tissue feels normal at the site of aspiration. If after three weeks, however, an area of localized residual induration remains, then excisional biopsy should be done. Deep lying cysts embedded in a dense fibrous stroma are probably best handled by surgical excision since evaluation of any residual induration after aspiration is difficult.

Simple mastectomy may be necessary occasionally in a histologically benign breast condition if the lesion is so large or extensive as to prohibit complete removal by local excision. It is my policy to advise simple mastectomy in patients with fibrocystic disease who have atypical epithelial hyperplasia as evidenced by layering of epithelial cells or the production of new acini within acini or who show the formation of papillae with some nuclear irregularity and hyperchromatism in the otherwise well differentiated cells covering them. McLaughlin, Schenken and Tamisiea in their excellent article consider these former lesions to be precancerous epithelial hyperplasia and the latter to be non-invasive papillary carcinomas and advise total simple mastectomy as the treatment of choice. Farrow feels that a simple mastectomy should be considered seriously when atypical epithelial hyperplasias, although fairly well circumscribed, are recurrent or multiple in the same breast and there is a familial history of cancer. It must be emphasized that only bilateral mastectomies will provide complete protection from cancer since fibrocystic disease usually affects both breasts to a greater or lesser degree.

If removal of the breasts is deemed necessary, the procedure of bilateral adenomamectomies as developed by Rice and Strickler, in preference to simple mastectomies,

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\*Novogran Tablets—E. R. Squibb & Sons.

\*Methischol Capsules—U. S. Vitamin & Pharmaceutical Corp.

\*Hydrodiuril Tablets—Merck, Sharp & Dohme.



should be carefully considered. This procedure removes most of the parenchymatous breast tissue without the mutilation associated with simple mastectomy. A Warren incision is made on the undersurface of the breast in the mammary-thoracic fold. If cancer is encountered, it can be converted readily into a radical mastectomy incision. The incision is carried down to the pectoral fascia and the breast is elevated from the chest wall in this relatively avascular plane. Multiple tumors can be excised or the entire breast tissue can be removed by sharp dissection from the anterior fibrous breast capsule. The skin with the nipple and areola, subcutaneous fat and anterior fibrous breast capsule are thus preserved and when replaced on the chest wall a normal contour is formed. Preservation of the breast capsule is essential to prevent puckering of the skin to the chest wall. A drain is brought out through the lateral end of the incision and the skin is closed with interrupted Stewart stitches.

### Summary

Fibrocystic disease, which is the most common lesion of the breast, is infrequent after the menopause and usually becomes clinically evident during the third decade of life. The exact etiology of this condition is a debatable one, but evidence points to an endocrine disturbance with an absolute or relative estrogen increase. Fibrocystic disease may be manifested in several different histological patterns, i.e. cysts, papillomatosis, apocrine epithelium, blunt duct adenosis, sclerosing adenosis and fibrous disease, and presents itself clinically as one of three stages or groups, namely, mastodynia, adenosis and cystic disease. When there is evidence of atypical papillary epithelial hyperplasia, it is considered to be a precancerous lesion. Medical therapy, in an attempt to cause regression or to prevent further advancement of the disease process is not intended to replace surgery when indicated, but it is a worthwhile procedure for those patients with fibrocystic disease who do not have a localized area requiring biopsy and for

postoperative cases where the diagnosis has been established. Surgical excision of any questionable tumor area is mandatory to rule out cancer and to determine if there is any evidence of atypical papillary epithelial hyperplasia in which latter case simple mastectomy is advised.

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## FIBROCYSTIC DISEASE OF THE BREAST

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# The Evaluation of Hypertensive Drugs

F. BERNARD SCHULTZ, M. D., F. A. C. C.

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Effective evaluation of one or more drugs useful in the treatment of hypertension requires a careful set of criteria. In our time there are many single hypotensive drugs and a number of drug combinations. Selection of the proper medication frequently presents a problem. Therefore a clinical evaluation of these drugs must present data which are easily comprehended and useful to the busy practitioner.

Hypertension has a complex etiology embracing cardiovascular, nervous and renal mechanisms that generally act in concert to maintain the normotensive state. The first criteria is to carefully select the patients, and ascertain if there is any physiological cause which tends to raise the systolic and diastolic pressures. Following careful diagnosis and selection of patients it is necessary to set up adequate controls and, most important, to

take accurate blood pressure readings. Bearing in mind the complexities of hypertension control, particularly when the patient is subject to daily socio-economic pressures, it is necessary to give carefully worded instructions and maintain close supervision. Careful records and vigilant follow-ups provide the basis for statistical evaluation and an appraisal of the clinical results.

The present study was undertaken to compare the ease of treatment, rapidity of response and untoward effects of two types of regimens, administered to separate groups of patients.

One group received a combination of drugs.\* This compound contained reserpine 0.1 mg. (Serpasil®)\*, hydralazine hydrochloride 25 mg. (Apresoline®)\* and hydrochlorothiazide 15 mg. (Esidrix®)\*. The other group were given the same three agents but each

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\*The Ser-Ap-Es® used in this study was supplied through the courtesy of Robert D. Graupner, M. D., of the Ciba Pharmaceuticals, Inc., Summit, New Jersey.

\*The Serpasil®, Apresoline® and Esidrix® used in this study was supplied through the courtesy of Robert D. Graupner, M. D., of Ciba Pharmaceuticals, Inc., Summit, New Jersey.



as a separate dosage form. First the reserpine was administered, then the hydralazine hydrochloride was added to the regimen and finally the hydrochlorothiazide was added to complete the dosage schedule.

At this time it is unnecessary to go into a long dissertation on the chemistry and pharmacology of three drugs. Each one has been used successfully in medicine, especially in the treatment of hypertension.<sup>1-10</sup> Reserpine decreases the response to various pressor stimuli. It is particularly useful for tense and anxious patients. Hydralazine hydrochloride has a tendency to produce relaxation of cerebral vascular tone without reducing cerebral blood flow; it is the only therapeutically acceptable agent which increases renal blood flow while reducing blood pressure. Hydrochlorothiazide is one of the most effective oral diuretics. It is a valuable antihypertensive agent when used alone or in combination with other drugs. Hypertensive patients with or without congestive failure respond to hydrochlorothiazide for there are significant reductions in blood pressure and elimination of excessive fluids.

### Materials and Methods

Fifty patients were selected for this study. A patient questionnaire was prepared from which many facts were gained. The physical examination was based upon the procedures recommended and used on the charts of The American Heart Association. A most important procedure in the physical examination is that of making a thorough, conscientious study of the eye grounds. This, together with the blood pressure readings taken in the Supine and Erect positions, was our basis for making a diagnosis of hypertension. The patients were further divided into groups depending upon the severity of the condition. They were then classified as either mild, moderate or severe. This is the same procedure used in our study of guanethidine and also in a study on a non-mercurial diuretic.<sup>11, 12</sup>

All of the patients were given low salt diets. The severe group were instructed to use salt-free bread and butter, and given a list of other foods which were either salt-free or of low salt content. All hypotensive drugs were eliminated for a period of two weeks prior to this study. Blood pressures were checked after the first and second week. Following the second examination, the patients were divided into two groups. One group was given tablets of reserpine, hydralazine hydrochloride and hydrochlorothiazide (Ser-Ap-Es®). The other group was given medication consisting of three differently colored tablets. The first tablet was reserpine (Serpasil®),\* the second was hydralazine hydrochloride (Apresoline®),\* and the third tablet was hydrochlorothiazide (Esidrix®).\*

Prior to each examination, each patient was weighed and made to rest in a quiet room in a comfortable supine position. In order to enhance the feeling of comfort and relaxation, soft music was piped into the room. After a reasonable period of time had elapsed, the pulse rate was counted for one minute. Then a careful blood pressure reading was taken with an electronic transistor stethoscope. The systolic pressure was recorded at the beginning of the first sound. The diastolic pressure was recorded at the disappearance of the sound . . . (fifth phase). The patient was then requested to stand, and the procedure was repeated. Every patient was carefully questioned about their sense of well-being and if there were any side-effects. All of the answers were carefully analyzed to determine their reality.

### Clinical Results

Forty nine patients completed the study. They ranged in age from 32 to 81 years of age. There were thirty females and nineteen males. In Group I there were twenty-four patients. These were treated with tablets of Ser-Ap-Es®, each containing reserpine (Serpasil®) 0.1 mg., hydralazine hydrochloride (Apresoline®) 25 mg. and hydrochloro-

CHART 1—GROUP I

TREATMENT OF HYPERTENSION WITH A COMPOUND OF RESERPINE HYDRAZINE HYDROCHLORIDE AND HYDROCHLOROTHIAZIDE (SER-AP-ES®)

CASE NO.	AGE	SEX	LENGTH OF THERAPY	DAILY DOSAGE	WEIGHT		BLOOD PRESSURE				PULSE			C O M M E N T S	
					BEFORE	AFTER	BEFORE		AFTER		BEFORE	AFTER			
							S°	E°	S°	E°		S°	E°		S°
1-JA	61	F	15 wks.	1	215	212	194/120	160/124	152/90	146/94	84	102	72	78	Esidrix 25 mg. added after 3 weeks, then 2 Ser-Ap-Es® daily.
2-IA	49	M	18 wks.	1	190	188	158/108	154/110	144/98	136/110	84	96	80	96	—
3-GA	74	F	13 wks.	1	201	197	174/130	170/108	162/102	144/108	78	96	72	86	Considering age and weight, excellent response.
4-AB	59	F	18 wks.	1	146	139½	160/110	140/102	142/96	130/92	78	90	68	78	Good response.
5-WC	69	F	18 wks.	1	178	176	186/110	154/120	124/70	102/80	72	90	72	84	Response good, although patient complained of headache.
6-SD	71	M	19 wks.	1	260	274	200/130	182/120	158/96	146/88	72	78	76	86	Esidrix 25 mg. added after 5 weeks. Excellent results.
7-BD	58	F	19 wks.	1	232	234½	160/100	148/104	138/86	124/88	84	94	78	90	After 11 weeks, Ser-Ap-Es® increased to 2 daily. After 14 weeks Esidrix 25 mg. added.
8-WD	66	F	17 wks.	1	157	158	180/110	150/90	140/74	110/94	78	90	72	78	Excellent results.
9-TD	51	M	19 wks.	1	194	192	184/106	172/98	142/84	132/90	84	90	68	84	Excellent results.
10-CF	65	M	17 wks.	1	125	125½	206/122	200/130	124/86	112/72	84	104	72	90	Excellent results.
11-CH	51	M	20 wks.	1-3	238	235½	216/138	206/144	158/118	146/120	84	108	66	64	Dosage increased to 1T.I.D.; after 13 weeks plus Esidrix 25 mg. daily.
12-EH	50	F	18 wks.	1	174½	167½	194/120	190/110	140/92	132/100	72	84	72	72	Excellent results.
13-FH	40	F	18 wks.	1	213¾	217	164/102	162/100	140/88	132/94	78	86	82	90	Some nausea and vomiting, but improved after 3rd week.
14-HK	50	F	15 wks.	1	200	204	160/90	145/98	132/94	128/100	78	90	66	78	Headache and dizziness.
15-AK	46	F	17 wks.	1	194	191	150/102	146/108	144/90	132/104	90	102	84	84	Esidrix added after 4 weeks.
16-JP	36	M	19 wks.	1	204	204	190/106	160/100	154/94	146/98	72	90	84	84	—
17-SP	40	F	18 wks.	1	235	224	158/104	142/112	134/76	120/88	72	78	72	88	—
18-FR	61	F	18 wks.	1	182	183½	184/118	168/120	148/90	134/90	84	104	70	78	Esidrix 25 mg. added after 4th week. Dose of Ser-Ap-Es® increased to 2 tablets per day.
19-LR	75	F	14 wks.	1	166½	161	200/110	160/118	164/94	140/100	90	102	82	96	—
20-CS	59	M	17 wks.	1	164½	168	170/132	160/130	150/108	130/110	78	90	70	84	—
21-BW	50	F	18 wks.	1	204½	205	180/112	163/122	140/80	132/96	72	78	74	88	—
22-RW	76	F	18 wks.	1	183	185	210/130	190/140	130/74	122/84	70	88	66	78	Good results.
23-SW	61	F	19 wks.	1-2	106½	111	216/104	206/108	176/74	148/78	78	84	72	84	Good results.
24-MD	41	M	19 wks.	2	187	181	164/108	154/120	140/84	132/96	72	78	72	88	Good results.

N.B. All patients on low-salt, low-fat diets.

N.B. All patients on low-salt, low-fat diets.

Average Length of Therapy: 17.54 weeks

Before	AVERAGE BLOOD PRESSURE		Decrease	AVERAGE MEAN ARTERIAL BLOOD PRESSURE**		Before	After	AVERAGE PULSE RATE	
	S*	E*		S*	E*			Before	After
S* 181/112 mm. Hg.	144/89 mm. Hg.	132/95 mm. Hg.	S* 37/23 mm. Hg.	146 mm. Hg.	140 mm. Hg.	S* 116 mm. Hg.	113 mm. Hg.	S* 78.66	S* 73.41
E* 166/144 mm. Hg.	132/95 mm. Hg.	132/95 mm. Hg.	E* 34/19 mm. Hg.	140 mm. Hg.	140 mm. Hg.	E* 113 mm. Hg.	113 mm. Hg.	E* 91.33	E* 83.58
									Decrease S* 5.25 E* 7.75

\*S = Supine Position  
\*E = Erect Position

Each Ser-AP-Es® tablet contains Reserpine 0.1 mg., hydralazine hydrochloride 25 mg. and hydrochlorothiazide 15 mg.

\*Mean Arterial Blood Pressure =  $\frac{\text{Systolic} + 2 \times \text{Diastolic}}{3}$

\*\*Calculated by the method of Best and Taylor: The Physiological Basis of Medical Practice, 6th Ed., Williams & Wilkins Co., 1955.

CHART 2—GROUP II

TREATMENT OF HYPERTENSION WITH INDIVIDUAL TABLETS OF RESERPINE, HYDRALAZINE HYDROCHLORIDE AND HYDROCHLOROTHIAZIDE

CASE NO.	AGE	SEX	LENGTH OF THERAPY	WEIGHT		BLOOD PRESSURE				PULSE				C O M M E N T S
				BEFORE	AFTER	BEFORE		AFTER		BEFORE	AFTER	S°	E°	
						S°	E°	S°	E°					
25-WB	60	M	19 wks.	170	165	190/100	164/100	138/82	126/86	72	78	66	72	One of each tablet daily. Improvement.
26-CB	81	F	14 wks.	176½	178½	180/100	168/104	172/90	170/90	78	90	78	78	One of each tablet daily. Improvement.
27-AB	63	F	15 wks.	155	159	160/104	130/88	148/94	130/78	84	102	72	84	One each Serpasil and Apresoline only. Slight improvement.
28-CB	74	F	2 wks.	182	182	196/100	190/100	170/92	—	108	120	82	—	One Serpasil daily, headache. Unable to visit office, treatment discontinued after 19 days.
29-RC	63	F	18 wks.	163	161	150/110	154/112	136/96	132/102	108	114	102	108	One of each tablet daily. Some dizziness. Improvement.
30-AC	42	M	13 wks.	197	197	172/104	168/118	158/104	140/110	90	96	90	108	Does well on 2 Serpasil daily.
31-JC	63	F	18 wks.	148	152	176/100	140/100	138/92	130/96	84	102	78	96	One of each tablet daily. Improvement and good response.
32-PD	32	M	12 wks.	193	195	176/100	158/114	178/108	130/96	66	84	66	78	One of each tablet daily, good response.
33-DG	63	F	19 wks.	165½	166	168/108	168/94	154/100	160/104	78	72	78	72	One of each tablet daily, improvement.
34-WG	62	F	19 wks.	201	205	170/118	160/114	146/100	134/104	66	90	54	66	One of each tablet daily, improvement and good response.
35-WH	75	M	18 wks.	155	155	168/94	150/80	144/82	132/88	66	72	64	72	One of each tablet daily. Good response, some dizziness due to cerebral arteriosclerosis.
36-WH	53	M	16 wks.	190½	192	160/108	150/110	154/100	130/104	90	104	78	92	One of each tablet daily, good response.
37-SH	66	F	17 wks.	157	156½	164/102	150/100	142/94	128/96	84	72	72	78	One of each tablet daily, good response. Headache and dizziness disappeared on continued treatment.
38-JJ	39	M	10 wks.	150½	160	140/108	154/100	142/100	132/90	90	102	84	90	One of each tablet daily. Good response while it lasted; patient jailed.
39-LK	36	F	17 wks.	176	175	190/120	178/120	122/70	110/86	88	96	90	104	One of each tablet daily, good response.
40-DM	55	M	16 wks.	198	201	154/110	148/118	134/86	128/94	84	96	74	88	One of each tablet daily, good response.
41-AM	70	M	19 wks.	220	217½	184/130	190/140	168/116	148/110	66	66	74	84	One of each tablet daily. Esidrix increased to 2 daily after 2½ months. General improvement.
42-SP	58	F	17 wks.	170	171	238/170	214/178	210/148	180/150	90	108	80	96	One of each tablet daily. Esidrix increased to 2 daily after 6 weeks.
43-LP	58	M	19 wks.	193	202	154/100	148/100	174/100	158/98	60	78	60	66	One Serpasil only, no improvement.
44-RR	58	F	18 wks.	199½	195	170/120	152/120	130/100	122/104	72	108	68	84	One of each tablet daily, controlled well. Good response.
45-SR	55	M	18 wks.	215	206½	234/136	210/120	200/118	148/100	84	96	86	96	One of each tablet daily. Esidrix increased to 2 daily after 7 weeks. Improvement.
46-ER	43	F	18 wks.	155	150½	198/120	186/118	164/108	140/120	102	108	78	96	One of each tablet daily. Good hypotensive response.
47-LS	57	F	18 wks.	104	110	210/120	182/120	178/102	142/104	120	144	84	96	One of each tablet daily. Good hypotensive response.
48-LT	74	F	15 wks.	113	107½	243/118	200/110	140/82	128/88	78	84	84	90	One of each tablet daily. Good hypotensive response.
49-WE	66	M	18 wks.	202	197	176/96	158/100	146/94	140/100	100	108	90	96	One of each tablet daily plus 2 Esdrix after 6 weeks. Good hypotensive response. N.B. All patients on low-salt, low-fat diets.

N.B. All patients on low-salt, low-fat diets.

Average Length of Therapy: 16.12 weeks

AVERAGE BLOOD PRESSURE		AVERAGE MEAN ARTERIAL BLOOD PRESSURE**		AVERAGE PULSE RATE	
Before	After	Before	After	Before	After
S* 181/112 mm. Hg.	S* 155/102 mm. Hg.	S* 146 mm. Hg.	S* 128 mm. Hg.	S* 84.05	S* 77.28
E* 167/111 mm. Hg.	E* 133/96 mm. Hg.	E* 139 mm. Hg.	E* 114 mm. Hg.	E* 95.60	E* 83.60

\*S = Supine Position

\*E = Erect Position

Each of the three tablets contained the following: 1) Reserpine (Serpasil®) 0.1 mg.; 2) Hydralazine Hydrochloride (Apresoline®) 10 mg. and 3) Hydrochlorothiazide (Esdrix®) 25 mg.

\*\*Mean Arterial Blood Pressure =  $\frac{\text{Systolic} + \text{Diastolic}}{2}$

\*\*Calculated by the method of Best and Taylor: The Physiological Basis of Medical Practice. 6th Ed., Williams & Wilkins Co., 1955.



thiazide (Esidrix®) 15 mg. The average length of therapy was 17.54 weeks. Average decrease in Supine blood pressure after treatment was 37/23 mm. Hg. Average decrease in Erect blood pressure was 34/19 mm. Hg. Average decreases in mean arterial blood pressure were Supine 30 mm. Hg., Erect 27 mm. Hg. Average decrease in pulse rate—Supine 5.25, Erect 7.75. (See Chart 1.)

Group II consisted of twenty-five patients who were treated for an average of 16.12 weeks. Each of these patients received three tablets of three different medications and differently colored. These were reserpine (Serpasil®) 0.1 mg., hydralazine hydrochloride (Apresoline®) 10 mg. and hydrochlorothiazide (Esidrix®) 25 mg. The average decrease in Supine blood pressure after treatment was 26/10 mm. Hg. Average decrease in Erect blood pressure after treatment was 34/15 mm. Hg. Average decrease in Supine mean arterial blood pressure was 18 mm. Hg., and decrease in Erect mean arterial blood pressure was 25 mm. Hg. Average decrease in pulse rate—Supine 6.77, Erect 12.0. (See Chart 2.)

In Group I three patients complained of mild side-reactions. Patient No. 5 (W. C.) complained of headache, although response to the therapy was good. Patient No. 13 (F. H.) had an excellent response to therapy, but after the third week complained of some nausea and vomiting which disappeared during the balance of the treatment. Patient No. 14 (H. K.) complained of headache and dizziness, which disappeared after three weeks. The average daily dose was one Ser-Ap-Es® tablet per day. (See Chart 1.)

In Group II Patient No. 28 (C. B.), a woman aged 74, complained of headache and had to discontinue therapy after 19 days because she was unable to keep appointments for treatment. Patient No. 29 (R. C.) complained of some dizziness but, as treatment continued, she showed improvement and the side effect disappeared. Patient No. 35 (W. H.), male, had a good response, but complained of some

dizziness due to his cerebral arteriosclerosis. Patient No. 37 (S. H.), female, also had headache and dizziness, which disappeared on continued treatment. (See Chart 2.)

### Discussion

Traditionally, the therapeutic goals in the treatment of hypertension have been to reduce peripheral resistance, lower blood pressure and thus avert or forestall organic damage which may shorten life.

Over the years there has been increasing evidence that hypertensive heart disease leading to cardiac failure, the principal cause of death in hypertensive patients, is not solely produced by the mechanical burden imposed by increased peripheral resistance.<sup>13</sup> Cardiovascular abnormalities display all the criteria of hypertensive heart disease, especially hypertrophy of the left ventricle, electrocardiographic sign of myocardial hypoxia and cardiac dilatation. These persistently occur in normal individuals.<sup>14</sup> Normalization of pathological electrocardiographic findings have been achieved in patients with hypertensive heart disease following sympathectomy despite continued elevation of blood pressure.<sup>15, 16</sup> Since increased peripheral resistance is not the only cause of cardiac involvement in hypertensive patients, obviously other factors are responsible. It has been shown<sup>17</sup> the catecholamines, epinephrine and norepinephrine play a major part in the pathogenesis of most common functional and degenerative cardiovascular disorders, including hypertension and heart failure. It has been noted that despite their essential role in physiologic cardiovascular regulation the catecholamines, through their potentially oxygen-wasting, efficiency-impairing, and necrotizing effects, can cause cardiac damage and dysfunction.<sup>18</sup> It would seem then that in every antihypertensive program some effort should be made to protect patients against the direct metabolic effects of the catecholamines on the heart. This can be

done<sup>17</sup> by quantitative diminution and functional inactivation of the catecholamines. One of the well-established antihypertensive agents, reserpine, depletes catecholamine stores from the myocardium and protects laboratory animals against presumably catecholamine-induced cardiac necrosis.<sup>19, 20</sup> Reserpine may be used alone or in combination with other antihypertensive drugs. In this study we have been working with three well known, therapeutically effective agents, i.e. reserpine, hydralazine hydrochloride and hydrochlorothiazide.

## Summary

Forty-nine patients, thirty females and nineteen males, ranging in age from 32 to 81 years were treated with two types of antihypertensive drugs. The patients were divided into two groups. One group of twenty-four patients was given tablets containing reserpine, 0.1 mg. hydralazine hydrochloride, 25 mg. and hydrochlorothiazide, 15 mg. (Ser-Ap-Es®), in doses varying from one to three tablets daily. In this group six patients received additional hydrochlorothiazide. In the second group of twenty-five patients the same medication was given but in three different tablets: the reserpine (Serpasil®) in 0.1 mg. tablets, the hydralazine hydrochloride (Apresoline®) in 10 mg. tablets and the hydrochlorothiazide (Esidrix®) in 25 mg. tablets. The patients in the second group were started on reserpine and hydralazine hydrochloride, then the hydrochlorothiazide was added as necessity dictated.

Both groups had similar good responses, as shown in Charts 1 and 2. As may be seen from these tables, dosage and administration must be predicated upon the patient's response and no rigid regimen is possible for either form of therapy. Medication was either added or subtracted from the original dosage schedule as required, and when the blood pressure reached a level which was well within normal limits. However, when

the dosages of reserpine and hydrochlorothiazide were increased, there was a more rapid patient response.

One or two tablets of reserpine, hydralazine hydrochloride and hydrochlorothiazide (Ser-Ap-Es®) were found to be a safe, adequate starting dose.

Untoward reactions were minimal. These disappeared on continued therapy.

There were no difficulties in instructing patients as to the dosage.

## Conclusions

A combination tablet, Ser-Ap-Es®, containing a mixture of reserpine, hydralazine hydrochloride and hydrochlorothiazide, was given to twenty-four patients. In order to achieve a comparative result, the same medications were given in individual tablet doses to twenty-five patients. Both therapeutic regimens proved to be effective antihypertensives.

The administration of one tablet of Ser-Ap-Es® is more convenient and the instructions for the patient are easier to follow than for the more complicated triple medication.

Regardless of the type of therapy used, the hypertensive patient must be carefully followed in a manner similar to that of treating a diabetic.

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# Daniel Drake

## Pioneer

## Teacher-Physician



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The subject of this sketch, Daniel Drake, has often been called the foremost citizen of Cincinnati and this distinction probably could well be applied to him as far as medicine is concerned in the Mississippi Valley.

Daniel Drake, the second child of Isaac and Elizabeth (Shotwell) Drake was born on a farm near Plainfield, Essex County (now Union Co.), New Jersey on October 20, 1785. Isaac was the youngest son of Nathaniel Drake and Dorothy Retan. Daniel's mother was the daughter of Benjamin Shotwell and Elizabeth Bonney.<sup>1, 2</sup>

When Daniel was less than three years old, his family along with other friends and neighbors moved to Kentucky. They came down the Ohio River, the more dangerous of

the two routes. They left their flatboat at the "Mouth of Limestone," later Maysville, and settled at Mayslick, Kentucky, twelve miles from the Ohio River, a few months before Cincinnati was founded.

The year of Daniel's birth will ever remain memorably in the annals of American Medicine. William Beaumont the famous physiologist was born in Lebanon, Connecticut in 1785. Benjamin Winslow Dudley was born in the same year in Virginia and under primitive conditions of practice achieved a great deal as the foremost lithotomist of his time. And finally, there was Valentine Mott, born in 1785, who ligated the innominate artery in 1818 and rose to fame because of it. He ultimately had one hundred and thirty-eight ligations for aneurism to his credit. It was also the year that William Withering published one of the great classics in all medical literature, "An Account of the Foxglove and Some of Its Medical Uses," in England.

Daniel described the condition of his family as one of abject poverty but the living conditions probably were no worse than other settlers experienced who came to Kentucky

before 1790. Isaac Drake became a teamster and soon was able to purchase a farm near Mayslick, where the family lived in a crude log cabin. The cabin had a loft for observing the Indians and the three weapons which were kept in the cabin were the rifle, axe, and scythe in case the Indians should make an attack.

Although the Drake family was poor, Isaac was a practical man and was ambitious for his son Daniel to study medicine. Daniel attended no regular school but received desultory instructions from itinerant teachers through his fifteenth year.

Daniel's uncle, Abraham, who lived across the road from his father's cabin, kept both a store and a tavern. The uncle grew so prosperous that he sent his son, John, to Washington, Kentucky, to study medicine with Dr. William Goforth, a member of the New Jersey Baptist Colony which came to Kentucky with the Drakes. Dr. Goforth was a precise practitioner who had been trained in New York. He had fled west with the above colony following the scandals of the "Doctor's Mob" in 1787, which had erupted over claims of grave robbing for dissection in New York's medical schools.

After about a decade of practice in Washington, Kentucky, Dr. Goforth moved to Cincinnati in 1799, a rough frontier town where his father was a respected judge.

Daniel's cousin, John, had permitted him to read his medical books and it soon became apparent that he wanted to be a physician, too. After about two years apprenticeship with Dr. Goforth, John Drake entered the University of Pennsylvania. When John died soon after graduation, Daniel inherited his medical books. Although Isaac Drake had hoped that his son would become a physician, no doubt it was Daniel's fascination with his cousin's medical books that influenced him to enter the medical profession.

That the family did not remain in abject poverty is indicated by the continued interest in Daniel studying medicine. So, at the age of fifteen, with little more than a smattering of reading, writing and arithmetic, he along

with his father set out for Cincinnati on December 16, 1800 to be apprenticed to Dr. William Goforth. So, in a small town of about 750 settlers, Daniel presented himself for the study of medicine.<sup>3</sup> Isaac paid Dr. Goforth \$400 for four years preceptorship for his son and thus was launched one of the greatest medical adventures of all times.

As an apprentice he made pills, compounded medicines, looked after Dr. Goforth's business affairs; but with all these things, saw patients all of the time and became familiar with the illnesses and injuries and the methods of handling them. Dr. Goforth, a good though erratic teacher, was impressed by Jenner's work with cow-pox vaccination against small pox. Procuring some cow-pox preparation, he successfully vaccinated Drake soon after his arrival in Cincinnati.

After four years of apprenticeship, Dr. Goforth issued Daniel a unique diploma. It was engraved and set forth:<sup>4</sup>

"I do certify that Mr. Daniel Drake has pursued under my direction, for four years, the Study of Physic, Surgery and Midwifery. From his good Abilities and marked attention to the Prosecution of his Studies, I am fully convinced, that he is well qualified to practice in these Branches.

"Cincinnati, State of Ohio, August 1st, 1805  
(signed) Wm. G. Goforth, Surgeon General,  
First Division Ohio Militia"

That was the first diploma in medicine issued west of the Alleghenies. Of this "Diploma" Drake said,

"I cherish it as a memorial of olden times, and still more, as a tribute of a heart so generous as to set aside the dictates of judgement on the qualifications of the stripling to whom it was spontaneously given. By its authority I practiced medicine for the next eleven years."

The writings of Dr. Benjamin Rush, University of Pennsylvania, had affected him greatly and aroused a desire to attend his lec-

tures. This was happening while he was apprenticed to Dr. Goforth and Dr. Goforth was not in sympathy with Rush's ideas. However, Daniel had impressed Dr. Goforth with his own ability to such an extent that Dr. Goforth took him into partnership in less than four years in 1804 and a year before he issued him a diploma. The net result was that Daniel was able to persuade his preceptor to follow some of Rush's ideas. Finally, Drake explained to Dr. Goforth that he desired to go to Philadelphia and study with Dr. Rush and his associates. By this time, Dr. Goforth respected Dr. Drake so much that he not only was in sympathy with the plan but also gave him some money as did his father, Isaac Drake, and a friend, a Mr. Taylor who thoroughly approved of Drake's ambition.

Equipped with his diploma, enthusiasm and little money, Dr. Drake started for Philadelphia, arriving there on November 9, 1805 after a tedious journey which was by way of Lexington, Danville, Cumberland Gap, Winchester and Baltimore. He practiced strictest economy, studied hard and after five months returned to Cincinnati in April 1806.

When Drake returned, he learned that Dr. Goforth was planning a trip to New Orleans and that he might remain in the south. Drake did not care to practice in Cincinnati without Dr. Goforth so he opened his office in Mayslick, Kentucky, and practiced there until April 1807. Dr. Goforth wrote Drake and asked him to take over his practice during his absence. Drake could not resist the invitation so after obtaining a promise from his parents that they would follow him, he and his younger brother, Benjamin, set out for Cincinnati.

Drake at once began the practice of medicine and acquired the patronage of the best families in the town. He became the physician to William H. Harrison, Nicholas Longworth, Judge David Burnet, Judge Symmes, and many others who were highly cultured gentlemen, who had had the advantages of an Eastern education and many of whom had traveled in Europe. It was natural that

Drake should soon take an active interest in public affairs and the interest as a public-spirited citizen continued throughout his life. Not only did Drake number among his patients the most influential people of Cincinnati, but he also helped to entertain the most distinguished visitors of the city: General LaFayette, Captain Basil Hall, Harriet Martineau, et cetera.

While practicing at Mayslick, he observed an epidemic, possibly of typhoid fever, the record of which was published in *The Philadelphia Medical And Physical Journal* in 1808. This was his first of many publications in the field of medical literature.

Soon after he returned to Cincinnati in 1807, Drake married Miss Harriet Sisson, niece of Colonel Jared Mansfield, Surveyor-General of the Northwest Territory. Later on, Colonel Mansfield was Professor of Natural and Experimental Philosophy at the U. S. Military Academy.

In October 1815, Drake decided to return to the University of Pennsylvania to pursue a second course of lectures to earn an M. D. degree from a recognized school so that he could prepare himself to teach in a medical school. Mrs. Drake went with him to Philadelphia, but they left their two children with his parents. During the winter Mrs. Drake was ill most of the time and their third child, John Mansfield, died on February 5, 1816. Drake received the M. D. degree on May 11, 1816 at a special convocation. He resumed his practice in Cincinnati on the following June 18.

Dr. Drake was an enterprising man and during his preceptorship learned about compounding drugs. Also, because Cincinnati was so far inland and communications were so slow, it became expedient that an adequate supply of drugs was readily available. Therefore, Drake became the proprietor of a drugstore, Daniel Drake and Co., which opened for business early in 1810. In 1815, he advertised the drugstore in which not only "Fresh Drugs and Medicine" could be purchased but also where, for the first time in the west, the ladies could enjoy soda water



in a room "detached from the bustle and confusion of business." This was the first soda fountain in Cincinnati.<sup>5</sup>

It is not surprising that the Trustees of Transylvania University, Lexington, Kentucky, offered Dr. Drake in 1817 the Chair of Materia Medica and Medical Botany.<sup>6</sup> He accepted and thus became the first professor of these subjects as well as a member of the first regular medical faculty west of the Allegheny Mountains. This was the beginning of his career as a medical educator, which vocation he followed, with brief interruptions, until his death. When dissension arose in the faculty, Drake resigned having completed but one course of lectures. He returned to his permanent home in Cincinnati and took up the practice of medicine.

Having proved beyond question of a doubt that he had teaching ability, he began a series of public lectures on botany in May 1818. During the next fall and winter, Dr. Drake and two associates, Dr. James B. Rogers and Rev. Elijah Slack, delivered a course of medical lectures which attracted more students than had ever before assembled for a similar purpose in the west. The success of this undertaking stimulated Drake to make plans for the incorporation of a medical college. By personal solicitation before the General Assembly of Ohio, he succeeded in obtaining a law of incorporation for the Medical College of Ohio in January 1819. At the same session of the Ohio Legislature, Drake obtained a charter for the Cincinnati College (now the University of Cincinnati).<sup>7</sup>

By provision of the Act, Dr. Drake was to be president of the Medical College of Ohio.

Despite opposition, he persisted in his efforts to secure teachers for the Medical College of Ohio. On August 20, 1820, he was able to announce that the school was organized with a faculty of five members. He was satisfied with the initial number since the University of Pennsylvania had had only six staff members in 1815. The Medical College of Ohio, the second medical school west of the Allegheny Mountains, opened with a class of twenty-four students on November 11, 1820, when Daniel Drake, the president, delivered an Inaugural Discourse on Medical Education.

The first faculty and subjects to be taught were as follows: Jesse Smith, M. D., Professor of Anatomy and Surgery; Benjamin S. Bohrer, M. D., Professor of Materia Medica and Pharmacy; Rev. Elijah Slack, A. M., assisted by Mr. Robert Best, Chemistry; and Daniel Drake, Professor of the Institutes and Practice of Medicine, including obstetrics and the diseases of women and children. In 1821, Dr. John D. Godman accepted the Chair of Surgery and Demonstrative Obstetrics.

Shortly after graduation in March 1822, two of the professors resigned. At the faculty meeting which followed these two resignations, transaction of routine financial matters were the first order of business. Then one of the staff members arose and addressed President Drake to the effect that he wished to present a resolution which was as follows:

"Voted that Daniel Drake, M. D., be dismissed from the Medical College of Ohio."

President Drake asked if there was a second to the resolution. Then the second

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*Read at a regular meeting of the Alabama Society of Medical History, Birmingham, Alabama, May 10, 1962.*

plotter arose and seconded the motion. The question was put and carried by the two plotters. With quiet dignity, the deposed Drake expressed his thanks and departed. The citizens of Cincinnati were so indignant that within a week Dr. Drake was reinstated but he promptly resigned.<sup>8</sup> This ridiculous situation resulted because the members of the faculty constituted the Board of Trustees. Accordingly, an independent Board of Trustees was established by an act of the Ohio Legislature in 1822, but the school vegetated.

It was generally recognized that Drake's abilities and personality were so superior to his colleagues that jealousies were inevitable. No doubt, this was emphasized in the eyes of his staff members when he went before the General Assembly a second time and secured a charter for the Commercial Hospital and Lunatic Asylum of Cincinnati, January 22, 1821. Drake was aided in his efforts by his patient and friend, General William Henry Harrison. This was the first hospital in the Mississippi Valley established for teaching purposes, staffed only by the teachers of a medical school. Drake declared:

"The laboratory is not more necessary for the study of chemistry as a garden of plants for the study of practical medicine and surgery."<sup>9</sup>

Transylvania University again offered him the Chair of Materia Medica and Medical Botany and he accepted it. He delivered his introductory lecture on November 7, 1823. This time he taught four years and in 1825, he was transferred to the Chair of Medicine and elected Dean of the Faculty. During his incumbency, Transylvania enrolled the largest medical class in its history: 281 students in 1825 and in spite of the fact that roads were almost non-existent thirty of them were from Alabama.<sup>10</sup> The brilliant Horace Holley, who had been in a large measure responsible for Transylvania's phenomenal growth resigned the presidency on March 14, 1827 and Drake's resignation came five days later. Drake returned to Cincinnati to enter private practice but soon united with Dr. Guy W. Wright who a year earlier had established

*The Ohio Medical Reporter*. They established *The Western Journal Medical and Physical Original and Eclectic* with Drake as the senior editor. The first issue appeared in April, 1827. As of July 31, 1828, Drake was proprietor, owner and editor. This Journal furnished a medium for his now famous essays on medical education. Of these essays, Colonel Fielding H. Garrison, Medical Historian and one-time Librarian of the U. S. Army Medical Library, believed them to be "the most important contributions ever made on the subject in this country." The Journal gave Drake the opportunity to publish papers on a large number of diseases including cholera, influenza, neuralgia, uterine hemorrhage, exophthalmus and phdophobia, to name only a few of them.

In 1827, Drake in conjunction with Jedediah Cobb opened on Third Street between Main and Walnut Street the Cincinnati Eye Infirmary. Drake went before the General Assembly of Ohio in 1836 to secure an Ohio school for the blind and the Act was passed on April 3, 1837.<sup>13</sup>

Of the western physicians, Daniel Drake was the first to be offered the Chair of the Theory and Practice of Medicine in the Jefferson Medical College at Philadelphia, 1830-31. He was welcomed by large and enthusiastic classes but love for the west and his ambition to found an outstanding medical school in Cincinnati led him to resign his position after one session.<sup>14</sup>

Drake's interest in education continued and in 1831, he was influential in trying to establish another medical school in Cincinnati as a branch of Miami University, Oxford, Ohio.<sup>15</sup> The trustees of the Medical College of Ohio realizing that such competition would be disastrous to their institution, offered a partial amalgamation of the two faculties, with Drake as Professor of Medicine and the temporary Chair of the Institutes. The Trustees failed to ratify one of Drake's assignments and placed restriction on the other so again he resigned as of the end of the session of 1831-32.



This was the year that cholera struck Ohio. Drake had publicly warned that:

"There is no longer any ground for hoping that we shall not be invaded."

He anticipated the attack and wrote a 180 page book on the "History, Prevention, and Treatment of Epidemic Cholera" for both popular use and medical reference. He asserted that the theory of "animalcular" origin of cholera explained more of the facts than any other hypothesis. With reference to malaria, when most physicians believed it due to marsh emanation, he taught that either animalcular or vegetable germs might be assumed as causes. On October 6, 1832, Drake reported the existence of cholera to a member of the Board of Health. The following day Dr. Drake publicly announced that an epidemic of cholera had made its appearance in the city, and that since September 30, there had been fifteen deaths.<sup>16</sup> His adversaries ridiculed such a statement, but Samuel W. Davies, president of the Board of Health and foe of Drake, appointed a "Sanatory Committee" to investigate. The committee which was composed of seven physicians, all of whom were unfriendly to Drake, reported not a single instance of cholera was found. However, on October 10, the Board of Health belatedly announced that cholera had appeared in Cincinnati. His vindictive opponents spread rumors concerning the victorious Drake to the effect that he had lost all of his patients and that he had gone into seclusion. The facts were that Dr. Drake's father died of cholera on October 14, 1832 and that 575 others died of the disease. Drake had not spared himself for 19 days and nights of constant effort in behalf of his patients.

In spite of envious criticism from his medical colleagues, Drake continued his efforts for improving medical education. Drake determined to establish a first-class medical college in Cincinnati, revived another of the institutions which he had founded, Cincinnati College and established a medical department within it in 1835. The medical faculty was an unusually able one: Joseph N. McDowell, professor of special and surgical anatomy;

Samuel D. Gross, professor of general and pathological anatomy; Horatio G. Jamison, professor of surgery; Landon C. Rives, professor of obstetrics and the diseases peculiar to women and children; James B. Rogers, professor of chemistry and pharmacy; John L. Riddell, adjunct professor of chemistry and lecturer on botany; John P. Harrison, professor of materia medica; and Daniel Drake, dean and professor of the theory and practice of medicine. Of the sixty-six medical students attending the first session, thirteen transferred from the Medical College of Ohio. During the four years of its existence, 388 students enrolled in the Medical Department of the Cincinnati College. Despite this fact, the lack of endowment forced its closure and again Drake's ceaseless efforts were thus doomed to failure. The Board of Trustees declared vacant all of the chairs in the Medical Department on August 20, 1839.<sup>17</sup>

Dr. Gross had joined the Medical College of Ohio in 1833 as demonstrator of anatomy. His former professor of materia medica at Jefferson Medical College, John Eberle, had joined the Ohio school and recommended Gross for the positions. Eberle had served on the "Sanatory Committee" in 1832 which had reported that Drake was wrong in his announcement that there was an epidemic of cholera in Cincinnati. In spite of Gross' gratitude to Dr. Eberle, he resigned from the Medical College of Ohio to join Drake's faculty in 1835.

The board of managers of the Louisville Medical Institute (now the School of Medicine, University of Louisville) learning of the suspension of the Medical Department of Cincinnati College sent Dean Charles Wilkins Short to interview Drake.<sup>18, 19</sup> When Drake became Dean at Transylvania he was transferred to the Chair of Medicine and Dr. Short replaced him in the Chair of Materia Medica and Medical Botany. Dr. Short had joined the faculty of the Louisville Medical Institute in 1838 and was appointed Dean the next year. As a result of the interview with his former colleague, Dr. Drake was unanimously elected to the Chair of Clinical Medicine and



Pathological Anatomy on September 7, 1839. He spent from October to March of each year at Louisville but called Cincinnati his permanent home and either spent the remainder of his time in practice there or continued in travel over the Mississippi Valley and lower Canada in quest of information for his medical classic, "A Systematic Treatise, Historical, Etiological and Practical on the Principal Diseases of the Interior Valley of North America" which was published on April 24, 1850.<sup>20-26</sup> No detail concerning disease escaped his notice. He observed and recorded anything that he thought would have a bearing on the health of the people. For example, in his travels in Alabama in May 1842 he visited the major cities and included Tuscaloosa, the home of the University of Alabama. He met the faculty and on talking with Richard T. Brumby, Professor of Chemistry, Mineralogy, learned that he had been unsuccessful in getting the Legislature to establish a geological survey. Drake pointed up the fact that a survey would be helpful in locating the minerals which could be used to aid the economy. He noted that the University had 3,478 volumes in its library (burned on April 4, 1865 by Wilson's Raiders) and that there were 79 students. He deplored the fact that the annual budget was only \$78,000 and suggested that with more money a much larger number could be educated.

Alfred Stillé said of Drake's Treatise in 1850,

"It belongs to the very highest rank of our medical literature, and may probably come to be regarded as the most valuable original work yet published in America."

Garrison wrote,

"There was nothing like this book in literature unless it might be Hippocrates on Airs, Waters and Places, and even Hippocrates made no attempt to map out or triangulate the geographic locale of disease."

In 1840, Dr. Gross joined the Louisville Medical Institute as professor of surgery. No doubt, Drake had been influential in bringing

Gross to Louisville because of their association of four years in Cincinnati. Gross remained on the faculty for sixteen years except for the session 1850-51, when he was professor of surgery at the University of New York as the successor of Valentine Mott. Gross left Louisville in 1856 to accept the chair of surgery of his alma mater, Jefferson Medical College.

Drake was quite happy in Louisville where he taught for twelve years. During this time, students from eighteen of the States were enrolled at the Louisville Medical Institute and eighty-three were from Alabama.<sup>27</sup>

With the income from teaching and consultative practice, he freed himself from debt for the first time. However, without a doubt, Drake's watchful eyes were constantly on the Medical College of Ohio. Its condition became so critical in 1849 that his help was again sought. His underlying love for the institution which he had founded caused him to return where he was triumphantly received when he delivered one of his finest addresses. The 1849 session had barely begun when Drake's optimism, ambition and hopes were shattered by intrigue and faculty squabbles. Again sorely disillusioned, he resigned at the close of the session and returned to the Louisville Medical Institute and taught the next two sessions. In the meantime, many faculty changes had been made in the Medical College of Ohio and Dr. Drake for the fourth time accepted a professorship in 1852.<sup>28</sup>

In 1829, the Academic Institute was established in Cincinnati. The outgrowth of this organization was the Western Literary Institute and College of Professional Teachers.<sup>29</sup> Although all of the annual meetings were held in Cincinnati, up to 1837, Alabama and fourteen of the other 26 United States sent delegates. It seems that Drake never held office in the organization but took an active part from its inception in the annual meetings where he served on committees, made motions, and presented reports. No doubt, he helped to change the location of the meetings to Louisville in 1843 and 1844 after the first thirteen had been held in Cincinnati. At

that time, Drake was teaching in Louisville. The organization seems to have ceased to operate about 1845.<sup>30</sup>

Drake was the chief leader in the following literary enterprises which were established for the good of the citizens of Cincinnati as well as people throughout the country: 1) The Literary Society; 2) The Cincinnati Lyceum; 3) The Circulating Library of Cincinnati—The Western Museum Society; 4) the Debating Society; 5) the School of Literature and Arts; 6) the Lancasterian Seminary which served as the foundation for the Cincinnati College; and 7) the Cincinnati Medical Library Association.<sup>4, 31</sup> Drake was a vice-president of the Humane Society which had been established for the purpose of attempting to resuscitate persons apparently drowned. He was a director of the United States Branch Bank as well as a member of the Standing Committee of the Cincinnati Society for the Promotion of Agriculture, Manufactures and Domestic Economy.<sup>32</sup> The idea of building a railroad between the Ohio River and the Atlantic Coast originated with Drake. He interested public spirited men in Cincinnati and Charleston in the project. By 1835 the state Legislature of Kentucky voted the right of way. The road started at Charleston and reached the Tennessee border by 1845. Because of his interest, Drake was often referred to as the father of the Cincinnati and Charleston Railroad.

Dr. Drake took an active interest in many medical associations and societies. By 1829, Dr. Drake had been elected to membership in The Philadelphia Academy of Natural Sciences; The American Philosophical Society and the Royal Wernerian Society of Natural History, Edinburgh.<sup>33</sup> He represented Hamilton County at the second Medical Convention of Ohio in May 1838.<sup>34</sup> The first volume of Transactions of the American Medical Association, 1848, lists Drake and Oliver Wendell Holmes as members of the Committee on Medical Literature. He was chairman of the standing Committee on Arrangement for the 1850 meeting of the American Medical Association in Cincinnati. Drake seemed to be

present at all business sessions since he made motions, resolutions, and suggestions as to how the medical profession could maintain its science, dignity, and influence. No doubt, one of the most satisfying of his motions at the Richmond meeting in 1852 was that Dr. Charles Alexander Pope's paper, "On the Use of Water in Surgery", be referred to the Committee on Publication. It was at the Richmond meeting of the American Medical Association that Pope of Huntsville, Alabama, who had been his student at the Medical College of Ohio, was elected Vice-President of the Association at that meeting. Three years later, he was elected President of the Association.<sup>35</sup>

Another of Drake's Alabama students, Nathan Bozeman, became a famous gynecologist. Dr. Bozeman practiced in Montgomery as a colleague of J. Marion Sims and entered the same general specialty where he made many improvements in technics. Another of his Alabama students, James McDonald Keller, was elected a Vice-President of the American Medical Association in 1874. Four more of his students became Vice-Presidents of the American Medical Association and four more of his students became President of the Association: William K. Bowling, William W. Dawson, Tobias G. Richardson and David W. Yandell.

Dr. Daniel Drake held nine professorships at five medical schools and taught about one-third of the people who studied medicine west of the Allegheny Mountains between 1817 and 1852. He had a broad influence as a medical teacher since he taught in three states and especially was that true in the case of the Ohio and Kentucky schools. These schools attracted students from nineteen of the states and about 150 were Alabamians.

He served as President of the Medical College of Ohio from 1819-1822 and as Dean at both Transylvania 1825-27 and the Medical Department of Cincinnati College, 1835-39.

Albert J. Beveridge in "Abraham Lincoln 1809-1858" referred to Drake as a practitioner:

"Drake's reputation was a national one.



His practice became largely consultive. In 1841, Abraham Lincoln wrote to Drake describing an illness at length and asking for an opinion particularly with reference to treatment. Dr. Drake refused to give either without personal examination!"

In October 1852, Drake began lectures preliminary to the regular course of the Medical College of Ohio. Late in the month, he attended the second annual meeting of the Kentucky State Medical Society in Louisville where he was elected the first honorary member. While attending the meeting in Louisville, Drake contracted a cold which became worse on his return to Cincinnati. His last public appearance was at a memorial service for his friend, Daniel Webster, held in Cincinnati on October 26, 1852. Upon retiring that evening, Drake had a severe chill and his condition worsened progressively until his death on November 5, 1852.

Dr. Samuel D. Gross, who was a colleague of Dr. Drake's at two schools, dedicated his *Pathological Anatomy* to Drake in the following terms:

"To Daniel Drake: Distinguished alike as an accomplished and successful teacher, and erudite and skillful physician, a zealous promoter of science and literature and an ardent friend of pathological anatomy, the following pages intended to illustrate one of the fundamental branches of medical science, as respectfully inscribed as a testimony of esteem for his exalted talents and attainments, and as a token of sincere regard for his character."<sup>23</sup>

Dr. Drake was highly respected by his students and colleagues. Gross said,

"Of all the medical teachers I have ever heard, he was the most forcible and eloquent."

W. J. Barbee, a former student had the following to say about Dr. Drake:

"As a professor, Dr. Drake, in my estimation, is not second to any man in the United States. I have always associated him with Rush. . . . (Dr. Drake's) style of lecturing is easy and pleasant: and for the

purpose of riveting more closely the attention of all within his hearing, he will often stop, and under pretense of ignorance, ask someone present information respecting some anatomical fact. His lectures are not unfrequently opened with wit and humor."

Another of his students, D. W. Yandell said,

"As a lecturer, Dr. Drake had few equals. He was never dull. His was an alert and masculine mind. His words were full of vitality. His manner was earnest and impressive. His eloquence was fervid."

Osler said:

"In many ways Daniel Drake is the most unique figure in the history of American Medicine."

We are indebted to Dr. Gross for a description of Drake's appearance which is briefly illustrated as follows: He was nearly six feet high, rather slender and well formed. His features, remarkably regular, were improved by his powerful and penetrating blue eyes.

"Drake was a man not of one but of many characteristics . . . but there was one feature which jutted out, prominently and conspicuously above all the rest and which served, in an eminent degree, to distinguish him from all the men of my profession I have ever known. This was intensity; intensity of thought, of action, and of purpose."<sup>23</sup>

The name of Daniel Drake has been indelibly stamped in our memory by two recent acts: A Liberty ship named for Daniel Drake was launched in February 1943 and the Daniel Drake Memorial Hospital, a modern building with 420 beds, was completed in 1952 on the grounds of the Hamilton County Home, Cincinnati, Ohio.

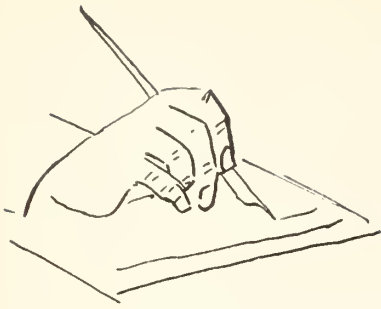
Dr. and Mrs. Drake had five children: Harriet (died in infancy); Charles Daniel; John Mansfield (died February 3, 1816 at three years of age); Elizabeth Mansfield (married in 1839 to Alexander McGuffey who authored McGuffey's *Eclectic Spelling Book* and Mc-



Guffey's Rhetorical Guide which became the *Fifth Reader*; and Harriet Echo (married James Parker Campbell). Mrs. Drake died in September 1825.

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### IMPORTANT ALLY

As an editor of a medical publication it is indeed refreshing to read how a president of two of Alabama's cotton mills feels about socialized medicine.

Writing in the August issue of *Opp-Micolas News*, employee publication of the Opp Cotton Mill and the Micolas Cotton Mill, President F. M. Lyons had this to say about medical assistance to the aged.

"The progress our nation has made in medical science and assistance to its people has been miraculous. Each passing decade has dimmed into insignificance the accomplishments of prior periods. Through scientific research in modern laboratories and painstaking work of clinical centers, new medicine has emerged to relieve sickness and suffering. From all this stronger bodies and minds have developed leading to a healthier race, whose descendants will further magnify the eugenics of a newer generation. The development of drugs is only one phase of this changing health pattern, as the training of doctors, better hospital facilities, and amazing innovations in equipment have all contributed to the increase in the longevity of life.

"Today there are more than 17 million Americans over 65 years of age and the problem they face is their ability to pay for medical care. With further progress in health control and the eradication of diseases, we can expect more senior citizens since the insurance mortality tables show that the life expectancy of a child at birth has increased from 64.2 years in 1940 to 70.5 years in 1959. Soon this expectancy will no doubt be increased to 75 years or older.

"With increased life expectancy, medical care for the aged has received more and more attention from governmental officials,

## Editorials

private insurance companies, and medical associations. The problem is how to best provide Medicare—private insurance, or a compulsory regimented, government-operated plan. The United States Senate recently rejected a government-sponsored plan.

"President Kennedy said the Senate vote was 'a most serious one for every American over 65.' This is a sweeping assertion and implies that no alternate plan was or is now available to take care of the aged sick. Yet, private insurance plans already cover 53 per cent of the aged and by 1969 will cover 75 per cent. Plans are now being formulated to increase the number covered at an even faster rate. Mr. Kennedy ignored all this.

"There are many private companies today making available, for a small monthly sum per person, plans that cover payments of surgeons and physicians' fees including, in some cases, home and office calls. Plans are being developed also to take care of the actual hospital expenses and nursing home needs of persons over 65 years of age at a premium cost of approximately \$12 per month. The basis of all these plans is voluntarism. From 1940 to the end of 1960 the number of people covered by hospital expense protection rose from 12 million to 132 million persons, while during the same 20 year span, the number under surgical expense protection increased from five million to 121 million and regular medical expense protection grew from three million to 88 million persons.

"Already in operation, also, are state-operated allowance plans which pay some medical bills for persons on relief. Nursing-home care is paid for in 48 states, hospitalization in 46, physicians' fees in 42, prescribed drugs in 40, dental services in 38. In all, about 2.3 million people over 65 get 'public assistance' entitling them to some free medical care.

Medical benefits will cost \$679 million in the year ending June 30—shared by the Federal Government and the states. Under the Kerr-Mills Act, persons over 65 years of age, though not on relief, can qualify for medical benefits by proving their need.

"The President's proposal as contained in the King-Anderson Bill did not cover the fees of physicians or surgeons outside the hospitals and covered only a portion of the hospitalization cost. The recipient would have to pay \$90 for the first nine days in the hospital, and the Federal Government would pay the rest including the services of interns and resident physicians, as well as nurses.

"Under this Act a person's participation would have been compulsory, because under Social Security, you have no choice in the matter—even if you could get more for your money from your own insurance agency. It would not apply to the three million people over 65 who are not under Social Security but it would apply to millionaires over 65 who are under Social Security. According to reliable estimates, if this bill or any other similar bill designed to socialize the medical profession were enacted into law, a taxpayer would undergo a 76 per cent increase in his Social Security tax by 1968. In a recent Supreme Court case it was decided that the Government has no contractual responsibility to pay you benefits, so there is no guarantee that this tax increase bill for medical assistance will be administered 100 per cent. With the passage of a Federal Bill such as the King-Anderson, the Government would get its foot in two doors—the private practice of medicine and private health insurance. And we know what happens when the Government gets its foot in a door.

"To increase the Social Security taxes for everybody just to take care of those who might object to being classed as 'needy' is the wrong approach. Increased taxes to administer socialized medicine in Europe caused many doctors to come to the United States, thus proving by their actions that the situation in their country of socialized medicine is intolerable. 'Socialized medicine' which comes as a result of too much governmental

interference is certainly not the answer, for it would lead to a shortage of good doctors.

"Medical care should be available to everybody. Those who can afford it, however, should pay for it themselves. The Government should help only when there is an actual need. Unlike other countries, the people in America have high incomes so that by a bit of thrift they can readily provide their own medical care insurance.

"All of us have some basic beliefs: one of these is that the majority of us believe implicitly in the competitive, free enterprise system and its reward of economic gain to its workers. Therefore, we believe that the private practice of medicine is, and should be a part of that system.

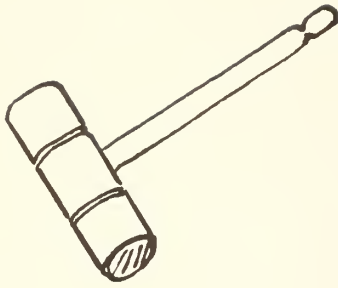
"Secondly, we favor freedom of the individual; freedom to choose where he wants to live, where he wants to work, and what kind of work, and freedom to spend or save his earnings in the way he wants. Included with these freedoms is the freedom of the individual to choose his own source of medical attention, physician, clinic, or whatever medical agency he wishes.

"Thirdly, we feel strongly that freedom and responsibilities for one's self and one's actions must go hand in hand. Having someone else bear the full cost of medical care for one's self and his family tends inevitably to erode personal responsibility. Moreover, it would seem bound to result in a tremendous and unwarranted increase in the total cost of such service.

"Medical care in this country is a very complex fabric that has produced the highest quality of such service in the world. This development has come about from scientific men, who have been fortunate to further their work under a system which allows freedom to perform their skills unhindered by political bureaucracy."

Mr. Lyon is an outstanding businessman in our state, recognized both in business and professional circles in the cotton textile industry. It is indeed heart-warming to know that we have such an important ally in our fight to preserve our voluntary practice of medicine.





# President's Page



## *American Medicine At The Crossroads*

"American medicine is at the crossroads" approaches being a cliché. A more factual statement would indicate that American medicine has been at the crossroads many times in the past and has chosen the route of medical progress with a precision which clearly indicates that we will not flounder for direction in the future. The crossroads are the internal differences and external attacks with which we contend.

The formation of American physicians into the American Medical Association gave us an organization to be used as an arbiter in internal disputes and an effective bulwark against external pressures. The proper forum for discussion of our problems should be within our county, state, and national medical organizations. The House of Delegates of the American Medical Association is our final authority to formulate ethical standards and mediate differences of opinion which are inevitable.

The history of medical progress is studded with occasions where these problems have been met, studied, discussed, and to a large extent solved. Medical education, licensure (for the healing arts), public health and other dilemmas have been resolved so that they now form an integral part of the basis of medical existence. These mechanisms give direction and authority along the road which medicine will travel during the generations to come.

Internal dissention such as the recent furor over the status of a new Board of Abdominal Surgery requires an intelligent application of the available facts.

A tussle between the College of Surgeons and the AMA over the method of paying an assistant is still not satisfactorily resolved. It should be recalled that there is much to be lost by debating the issue in the public press, which only leads to public distrust and confusion.

There is still evidence of internal dissention between the academicians and practicing physicians. It varies in intensity but exists wherever a medical school is situated. A willingness to discuss the various problems in an atmosphere devoid of tension and selfish interests will undoubtedly bring about a closer understanding.

These problems are pallid, however, when compared to the florid attacks of the collectivists who would snare medicine and delude an apathetic public into the abyss of welfare statism. To fend these attacks the American Medical Association must draft able and dedicated men from the members of an enlightened rank and file who stand prepared to serve in the vanguard.

M. VAUN ADAMS, M. D.



## ORGANIZATION SECTION

### Relative Value Index Committee

The first meeting of the newly formed Relative Value Index Committee met in the Association building in Montgomery on June 12. Meeting with chairman W. B. Crum were Drs. W. J. Tally, J. A. Jones, Jr., C. W. Neville, and R. O. Harris, III.

Dr. Crum presented background information concerning the Association's work in setting up the committee. The results of various workshops and meetings held by the American Medical Association and other state associations dealing with relative value studies were reviewed.

The committee passed a resolution requesting each medical specialty group in Alabama to submit a relative value index based upon American Medical Association's suggested plan for establishing a relative value study.

The chairman read a check-list of steps to be followed in a relative value study as suggested by the American Medical Association. The various problems involved in such a study were discussed, and Dr. Neville gave the committee a report on Jefferson County Medical Society's work in this field.

The committee passed a resolution requesting each medical specialty group in Alabama to submit a relative value index before October 1, 1962. These indexes will be used by the committee in compiling a relative value index for Alabama.

### Committee On Legislation

At a meeting of the Committee on Legislation, three new subcommittees were established to study pending legislation.

Chairman E. B. Glenn appointed Drs. H. N. Carmichael, T. E. Bridges, and J. F. Dumas to study the physiotherapists' proposed bill.

Drs. J. A. Brantley, H. G. Hodo, Jr., and J. H. Meigs were assigned to a subcommittee on the Good Samaritan Law.

Named to investigate the impartial testimony system were Drs. E. L. McCafferty, Jr., E. L. Strandell, and W. P. Virgin.

Dr. Glenn announced that during the 1963 session of the Legislature primary emphasis should be given to support of the public health program in Alabama. He asked Dr. Gill to make a statement concerning the needs of the Health Department. Dr. Gill discussed at length the dire situation facing the Department; the basis for which is primarily a lack of funds. Special emphasis was given to the inability to hire qualified personnel, the needs in the field of general health, the needs in county health work, and the needs in treatment of cancer. After a full discussion, the chairman asked Dr. Gill to prepare for the committee an "ideal" program and budget.

Dr. McCafferty stated that to him the committee had on occasion failed to support individual needs in specified situations. He suggested that a letter should go to the county medical societies asking them to send in suggested ideas on legislation which would be important in the individual counties. This suggestion was accepted.



## ASSOCIATION FORUM

### AMERICA'S HEALTH--OURS TO PRESERVE

JOY GRIGG

Tuscaloosa, Alabama

Today's race for supremacy of our last frontier—space—is important to all of us. We spend millions of dollars each year for this purpose. A purpose which includes research, experiment, test and more test.

Why do we pursue this frontier with such interest? The first reason is to insure peace and tranquility to the nations on this earth after life in outer space has been achieved. Another reason is the population problem we will face in the future. There are nearly 184,000,000 people in the United States, with an increase of 3,000,000 people a year. No wonder we look with interest at the possibility of life on the moon or some other satellite.

This frontier will be conquered by people—the most valuable resource of our nation. It will be necessary for these people to have more education and more knowledge to exist in this world of space travel. Not only will their existence depend upon knowledge but also on their health and ability to adjust physically to their surroundings.

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Miss Grigg is a graduate of Tuscaloosa High School and was second place winner in last year's essay contest.

Just as it has been true in the thousands of years past, it will be true in the future, that a nation's existence depends on its people—a healthy people. We, the American people, have been able to boast of a healthy population for many years. This has rewarded us greatly today.

From the first unhealthy winter of the Pilgrims at Plymouth, to this very hour there have been measures taken to prevent and cure diseases. American doctors, scientists, and citizens, with their contemporaries from other lands, have worked diligently throughout our history to bring about this goal. Their work has advanced today to the point that in America we have over 240,450 doctors, or one doctor for every 725 people, countless nurses, numerous hospitals, clinics, Tuberculosis hospitals, mental institutions, health departments, and other health services.

How are we going to use these standards of health that others have developed for us? Will we become lax in upholding these standards and become just degenerating bodies? Or will we comply with sanitation rules, use preventives for diseases, and obtain proper care in case of illness?

It must be the duty of all Americans to use our present achievements in health. We



must also make others aware of the importance of the codes of good health. It is our duty to each other to have an informed public on these matters and to provide all means possible to help and improve our health standards.

Improvement of health standards will come in the form of more doctors, nurses, hospitals of all types, and health services. Just as our expanding population will need more living space, so it will need more health services.

However, let it be the hope of all that research and discovery in health will come in the future just as research and discovery in space will come and that this work will preserve and improve our health standards of today. Therefore, as we venture into space let our challenge also be "AMERICA'S HEALTH—OURS TO PRESERVE".

#### Bibliography

Compton Yearbook—1960, Page 202.

## *Statue of Liberty --- October 28, 1886*

When President Grover Cleveland accepted the Statue of Liberty in the name of the American people on October 28, 1886, he could not have foreseen the world scene of 1962; but he pledged a spirit which is abiding insurance for the mind and soul of America today:

"We will not forget that Liberty has here made her home; nor shall her chosen home be neglected."

Neither is *Liberty Enlightening the World* likely to be forgotten by the millions of immigrants who have seen the colossal statue with upraised torch as one of their first glimpses of America. And for all those who are yet to see her—or may never see her—Liberty stands peaceful and tall enough in the New York harbor to translate America for all the world.

International friendship was the motivating spirit when the idea of a monument to commemorate the French and American Revolutions originated in 1865 in the minds of a small group of Frenchmen-of-letters, artists, and politicians headed by Edouard

Rene de Laboulaye. One of the group, a young Alsatian sculptor, F. Auguste Bartholdi, who was delegated to visit the United States and study the possibilities of a symbolic structure, is said to have caught the inspiration for a great statue of welcome and a proud symbol for both the United States and France when he beheld the New York harbor.

Funds raised by the Franco-American Union, organized in 1875, included contributions from 5,000 subscribers in France, representing 181 cities and ten municipal chambers of commerce. The French government itself was never asked for a contribution.

Bartholdi first created a nine-foot scale model for the gigantic statue which he then divided into 300 sections to be individually fashioned out of copper sheets, each section enlarged four times by the elaborate methods of "pointing up." The iron skeleton of the statue was designed by Alexandre Gustave Eiffel, the engineer who later designed and built the Eiffel Tower.

Bartholdi's chosen setting for the statue

## THE ASSOCIATION FORUM

was the New York harbor; and in 1877 Congress approved setting aside Bedloe's Island, now appropriately named Liberty Island. The base, of concrete faced with granite and standing 89 feet high within the walls of old Fort Wood, was an American contribution completed in 1886.

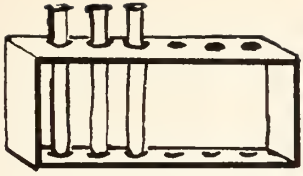
For the formal dedication of *Liberty Enlightening the World* on October 28, 1886, Bartholdi himself stood in her torch some 300 feet aloft and pulled the rope to remove the French tri-color which masked the face. The statue previously had been presented to the United States in France on July 4, 1884, and arrived in this country in 1885. Weighing close to 220 tons, Liberty herself towers 152 feet into the harbor sky atop the 89-foot base. Her left hand holds a tablet symbolizing the Declaration of Independence.

Inscribed on the base of the statue is the sonnet by Emma Lazarus, the American poet of Portuguese-Jewish ancestry (1849-1887), *The New Colossus*:

Not like the brazen giant of Greek fame,  
With conquering limbs astride from land to  
land;  
Here at our sea-washed sunset gates shall  
stand  
A mighty woman with a torch, whose flame  
Is the imprisoned lightning, and her name  
Mother of Exiles. From her beacon-hand  
Glows world-wide welcome; her mild eyes  
command  
The air-bridged harbor that twin cities frame.  
"Keep, ancient lands, your storied pomp!"  
cries she  
With silent lips. "Give me your tired, your  
poor,  
Your huddled masses, yearning to be free,  
The wretched refuse of your teeming shores.  
Send these, the homeless, tempest tossed, to  
me;  
I lift my lamp beside the golden door."

## THE BRITISH VIEWPOINT

*When some of our American colleagues suggest that competition in the drug industry has become excessive, then we should do well to take heed. But in the criticism leveled at the pharmaceutical industry too little notice, we suggest, is taken of the risks to which the industry is subjected, and too little emphasis is placed on its needs for profits, not only from purely business considerations, but also for money to plough back into research.* BRITISH MEDICAL JOURNAL



## STATE DEPARTMENT OF HEALTH

### MEDICAL CARE FOR THE AGED IN ALABAMA

RALPH L. LAWRENCE, M. D.

Alabama Department of Public Health

Many aged persons have insufficient resources to pay for needed medical treatment. To meet this most urgent need the State Department of Pensions and Security on April 1, 1961 began a program of hospitalization for acute illnesses under the Kerr-Mills bill for those receiving pensions (HOAP). At first the rate was ten days per fiscal year; this was increased to 15 days October 1, 1961 and to 30 days June 1, 1962. Medical Assistance to the Aged (MAA) for those not receiving pensions but in need of help was started February 1, 1962 at a rate of 15 days hospitalization per year. A limited program for physicians' services during the 30 days following hospitalization was started at the same time. Eligibility is certified by the county offices of pensions and security.

The Department of Pensions and Security has contracted with the State Department of Public Health for certain services. These include contracts with hospitals and reviewing claims to determine if the claims meet the specific medical requirements of the program. Rules and regulations under this agreement

have been sent to hospitals and physicians throughout the state. In addition a representative of the Health Department has visited many of the hospitals.

Utilization of these programs has gradually increased. Participating hospitals number 122 for HOAP and 111 for MAA. From April 1, 1961, the beginning of the program, through August 31, 1962 (17 months), there were 21,207 recipients for hospitalization at the total cost of \$3,856,579.35 in the HOAP program. For MAA which started February 1, 1962, through August 31, 1962, there were 934 people who received \$199,180.44 for hospitalization. Nine hundred and seven persons in the HOAP program visited physicians' offices from February 1, 1962, through August 31, 1962, at a cost of \$10,084. The 106 recipients in the MAA program for the same period received \$1,226.50 for office visits to physicians. The total amount for these programs of medical assistance to those in need over age 65 is \$4,057,087.13.\*

\*Figures from the State Department of Pensions and Security.



# DEPARTMENT OF HEALTH

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

### SPECIMENS EXAMINED

August 1962

Examinations for malaria .....	17
Examinations for diphtheria bacilli and Vincent's .....	16
Agglutination tests .....	610
Typhoid cultures (blood, feces and urine) .....	446
Brucella cultures .....	2
Examinations for intestinal parasites .....	3,370
Darkfield examinations .....	5
Serologic tests for syphilis (blood and spinal fluid) .....	27,915
Examinations for gonococci .....	2,011
Complement fixation tests .....	108
Examinations for tubercle bacilli .....	3,824
Examinations for Negri bodies (smears and animal inoculations) .....	236
Water examinations .....	3,043
Milk and dairy products examinations .....	4,030
Miscellaneous examinations .....	4,710
<b>Total</b> .....	<b>50,343</b>

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## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

### CURRENT MORBIDITY STATISTICS

1962

	July	Aug.	*E. E. Aug.
Tuberculosis .....	97	129	186
Syphilis .....	112	103	144
Gonorrhea .....	436	343	399
Chancroid .....	1	4	3
Typhoid fever .....	0	3	5
Undulant fever .....	1	1	1
Amebic dysentery .....	4	6	3
Scarlet fever and strep. throat .....	15	92	19
Diphtheria .....	0	0	5
Whooping cough .....	11	11	33
Meningitis .....	2	2	9
Tularemia .....	0	1	0
Tetanus .....	3	1	2
Poliomyelitis .....	1	4	23
Encephalitis .....	0	0	1
Smallpox .....	0	0	0
Measles .....	74	15	48
Chickenpox .....	4	0	6
Mumps .....	20	5	31
Infectious hepatitis .....	70	52	29
Typhus fever .....	0	0	1
Malaria .....	0	1	0
Cancer .....	642	645	473
Pellagra .....	0	2	0
Rheumatic fever .....	24	11	7
Rheumatic heart .....	47	22	16
Influenza .....	8	28	45
Pneumonia .....	95	142	117
Rabies—Human cases .....	0	0	0
Pos. animal heads .....	3	1	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

### PROVISIONAL BIRTH AND DEATH STATISTICS, JULY 1962, AND COMPARATIVE DATA

Live Births Deaths Causes of Death	Number Registered During July 1962			Rates* (Annual Basis)		
	Total	White	Non- White	1962	1961	1960
Live Births .....	6,735	4,301	2,434	24.0	25.1	25.0
Deaths .....	2,527	1,664	863	9.0	8.7	8.3
Fetal Deaths .....	149	66	83	21.6	20.3	22.8
Infant Deaths— under one month .....	124	82	42	18.4	22.9	22.3
under one year .....	172	98	74	25.5	29.7	30.0
Maternal Deaths .....	5		5	7.3	8.3	5.6
<b>Causes of Death</b>						
Tuberculosis, 001-019 .....	25	13	12	8.9	6.8	11.2
Syphilis, 020-029 .....	6		6	2.1	2.5	2.2
Dysentery, 045-048 .....	4	2	2	1.4	0.4	0.7
Diphtheria, 055 .....					0.4	
Whooping cough, 056 .....	1	1		0.4	0.7	
Meningococcal infec- tions, 057 .....	1	1		0.4		
Poliomyelitis, 080, 081 .....					0.4	0.4
Measles, 085 .....						
Malignant neoplasms, 140-205 .....	362	263	99	129.0	118.3	105.7
Diabetes mellitus, 260 .....	32	20	12	11.4	9.3	10.5
Pellagra, 281 .....					0.4	
Vascular lesions of central nervous sys- tem, 330-334 .....	356	227	129	126.8	125.0	124.1
Rheumatic fever, 400-402 .....	1		1	0.4		0.4
Diseases of the heart, 410-443 .....	885	606	279	315.3	291.4	260.9
Hypertension with heart disease, 440-443 .....	154	67	87	54.9	40.2	46.2
Diseases of the ar- teries, 450-456 .....	52	41	11	18.5	15.7	15.5
Influenza, 480-483 .....	4	1	3	1.4	0.4	1.1
Pneumonia, all forms, 490-493 .....	59	41	18	21.0	15.7	16.2
Bronchitis, 500-502 .....	3	3		1.1	0.7	0.7
Appendicitis, 550-553 .....	2		2	0.7	1.4	1.4
Intestinal obstruction and hernia, 560, 561, 570 .....	8	5	3	2.8	5.0	5.8
Gastro-enteritis and colitis, under 2, 571.0, 764 .....	12	2	10	4.3	2.8	3.6
Cirrhosis of liver, 581 .....	14	9	5	5.0	6.1	5.4
Diseases of pregnancy and childbirth, 640- 689 .....	5		5	7.3	8.3	5.6
Congenital malfor- mations, 750-759 .....	23	18	5	3.4	3.7	2.4
Immaturity at birth, 774-776 .....	34	17	17	5.0	8.1	7.6
Accidents, total, 800-962 .....	176	114	62	62.7	66.6	74.0
Motor vehicle acci- dents, 810-835, 960 .....	75	60	15	26.7	26.7	33.9
All other defined causes .....	357	231	126	127.2	131.1	133.5
Ill-defined and un- known causes, 780- 793, 795 .....	105	49	56	37.4	34.6	33.6

\*Rates: Birth and death—per 1,000 population

Infant deaths—per 1,000 live births

Fetal deaths—per 1,000 deliveries

Maternal deaths—per 10,000 deliveries

Deaths from specified causes—per 100,000 population



## BOOK REVIEWS

**The Doctor Business.** By Richard Carter. Paper. Price, \$0.95. Pp. 268. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, N. Y. 1961.

This paperback book is a new revised edition of the original which appeared in 1958. Basically, there is nothing new in the book except that it has been updated to include the present controversy over the King-Anderson Bill. Mr. Carter has as his thesis the idea that the stand taken by organized medicine in opposition to socialized medicine is dictated purely and simply on fear of loss of income. Take for example the statement found in the introduction. "The knowledge that public control will curtail the profession's fee privileges underlies organized medicine's position on health insurance and on every other controversial issue in the field."

Doubt not for a minute that Mr. Carter is a very effective writer. His training in the news media shows to its fullest advantage. Doubt not also that Mr. Carter is a brilliant protagonist for his thesis. He marshals his arguments quite well and comes up with what is to him the logical answer. This reader does not admire his tactics, but one must admit that many people would.

There are many interesting points to this book; and, incidentally, every doctor should read it. The most interesting to this reader was the fact that without ever stating it, the author is portraying one side of a philosophical argument; and he makes a convincing appeal. One wonders, however, why the book made its appearance at this time in paperback form. It is questionable that the original was a best seller; so the whys and wherefores on the new edition are ruminations for a long winter's evening.

The book is recommended for your reading but certainly not to be read just prior to trying to go to sleep. At that juncture, use a novel that will not cause your blood pressure to rise.

W. A. Dozier, Jr.

**The Abortionist.** By Dr. X As Told To Lucy Freeman. Cloth. Price, \$3.95. Pp. 216. Doubleday & Company, 575 Madison Avenue, New York 22, N. Y. 1962.

This is a story of a doctor of medicine who became an abortionist, was subsequently sent to prison for a four-year term, and returned again eventually to continue doing the same job. One might wonder why this book was ever written if it concerns the story of a man who throughout his professional career has been outside the law. The doctor's purpose in telling the story is to create an atmosphere conducive to liberalization of laws on abortion in the United States. It is his contention, as stipulated in a chapter heading, that we have "a jungle code in the space age." His primary thesis is that there are more dangers to life than just those of a physical nature—namely, the psychological aspects. These he contends must be considered in liberalizing the laws.

The book is written for the nonmedical reader, and there are certain facts given that are not commonly known. For example, this reader was surprised to learn of the great number of abortions that are performed in this country each year. I cannot say that Dr. X has by his book convinced me that radical changes are needed in the abortion laws, but he has certainly opened up the field for consideration. Perhaps this is actually his purpose; for there are many, many questions which probably could not be answered in this book. In fact, probably many of those questions could be answered only with a tremendous amount of research.

The book is interesting; it is short, and it is believed that many physicians would enjoy reading it.

W. A. Dozier, Jr.

# *The Woman's Auxiliary*

## AMA-ERF

As State Chairman of AMA-ERF for the Woman's Auxiliary to The Medical Association of the State of Alabama, I have been asked to outline just what we have planned for this year.

There is something new and that is the joining together of the American Medical Education Foundation and the American Medical Research Foundation. One gives financial aid to medical schools, the other to scientific and medical research. Basically, still the same, their union gives to donors a broader area of choice for donation.

And just what is AMA-ERF? Its primary aim is to maintain the high standards of medical education and research and to raise funds toward this goal. It gives us the means of asserting our faith in the free enterprise system of the private practice of medicine. If medical schools and research groups can refrain from seeking government funds, socialization of medicine has a harder beginning.

With the aims of AMA-ERF in view, how do we in the Woman's Auxiliary work to raise funds? There have been any number of clever ideas employed to achieve the Auxiliary goal of \$5.00 per member per year. Constantly in use are Memorial and Appreciation cards. What better way to express your feelings to a friend or relative than by a lasting contribution in his name? You may also be playing bridge with specially made AMA-ERF playing cards. These came into use last year and will be continued again.

With the hope to reaching and even surpassing our AMA-ERF goal, this year all county auxiliaries are being urged to use a Christmas card plan. This card plan worked so well for Mobile County it is being broadened over the state. Briefly, it goes like this:

Each Medical Society member is asked to make a contribution to AMA-ERF. Those doctors responding with a donation, will have their names placed on a specially designed card. (Names will be listed alphabetically.) In this card will be written that the doctors listed have given a contribution to AMA-ERF instead of sending Christmas cards. One of these cards will be sent to every County Medical Society doctor whether he contributed or not.

Of course, this plan can be varied to suit the needs of the individual county, but for just one signature, the Medical Auxiliary will relieve you busy doctors and your busy wives of this rather time consuming task. It is always nice to know, too, that this is a tax exemption.

In order to make this a banner year for our County and State Auxiliaries, we need you . . . don't we always? When your wife or an Auxiliary member mentions AMA-ERF and its projects, listen kindly and give generously.

MRS. CURTIS A. SMITH  
Mobile



# THE JOURNAL

of

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## *A Preliminary Report---*

## Neomycin Perfusion For Chronic Osteomyelitis

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### Introduction

In chronic osteomyelitis, the causative organisms may be resistant to the commonly used antibiotics. If the bacteria are sensitive only to antibiotics that produce toxicity, the treatment must be limited, modified or withheld. Antibiotics have been used locally in the treatment of osteomyelitis either by topical application, infusion through plastic tubes into the sequestered area, or by direct intra arterial infusion of the non toxic drugs. As

the flora of the bacteria changes and as the organisms develop resistance, it becomes necessary to seek out safe methods of administration of the effective antibiotics.

The extent of the pathological process is underestimated if it is regarded only as an infection of bone, since muscle fascia, periosteum and skin are also usually involved. The chronic nature of the process results in sclerosis and fibrosis, which in turn results in strangulation of small blood vessels and local tissue ischemia. Thus, even if the correct antibiotic is used, it may not reach all of the infected tissues in sufficient concentration to eradicate the infection.<sup>5</sup>

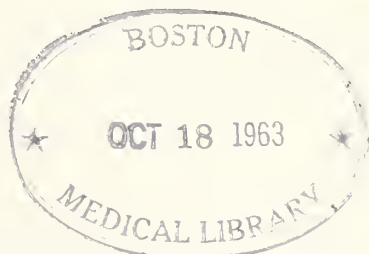
Since the application of the pump oxygenator to regional perfusion of malignant disease by Creech, et al,<sup>1, 2, 3</sup> there has been interest in applying this technique to other disease processes. One of the most promising of the

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other applications is its use in antibiotic perfusion of chronic osteomyelitis. This enables one to deliver large quantities of effective antibiotics to the diseased area. Dr. Ryan,<sup>6,7,8</sup> has applied this principle to several patients with long standing osteomyelitis and has obtained rewarding results in selected patients.

### Experimental Data

Beginning in 1957, studies were undertaken to determine safe dosages of various antibiotics administered by these techniques.<sup>6</sup> The hind limb of the dog was perfused with the antibiotics listed in Table I for 30 minutes. Microscopic sections of the skin prior to and following perfusion were taken and the changes in the tissue noted at various dosage levels. These animals were observed for a period of time and viability of the leg noted. The safe dosage levels determined by this technique are listed in Table I.

TABLE I Ryan<sup>7</sup>

Safe dosage levels of antibiotics in experimental limb perfusion.

Bacitracin .....	4,000 units/Kg/Body wt.
Chloramphenicol (Chloromycetin®) .....	0.1 gm/Kg/Body wt.
Sulfadimethoxine (Madribon®) .....	0.25 gm/Kg/Body wt.
Amphotericin B (Fungizone®) .....	1.5 mg/Kg/Body wt.
Mycifradin sulfate (Neomycin®) .....	0.1 gm/Kg/Body wt.

It is interesting to note the special problem involved with neomycin. This drug has an antiheparin effect and the procedure had to be modified so that (A. C. D.) solution with Dextran was substituted for blood as the perfusate.

Following the determination of safe dose levels Ryan et al.,<sup>7</sup> applied this principle to several patients. Using a combination of penicillin, chloramphenicol and bacitracin, they reported that three out of eight patients

had responded to the perfusion and remained well. The duration of disease in his series of patients ranged from two years to 50 years prior to perfusion.

This report deals with the use of mycifradin sulfate in the perfusate. Heretofore, the clinical use of mycifradin sulfate in this manner is unreported. The technique and dosage as recommended by Ryan<sup>7,8</sup> was repeated on two mongrel dogs in our laboratory. Using endotracheal anesthesia and the Byrd respirator, there was no undue complication as a direct result of using mycifradin. The animals were observed for several days and regained full use of the perfused extremity.

### Presentation of Case

A 58 year old colored male was involved in an automobile accident on August 8, 1960, and sustained a compound fracture of the right tibia and fibula. He was treated initially at another hospital where the leg was debrided and an intramedullary tibial nail inserted. Shortly after the open reduction the area showed evidences of inflammation. Four months following the injury, he was referred to this hospital and the intramedullary nail removed and a pedicle graft was performed from the opposite leg to the skin defect. The infection continued, the graft failed and the patient was treated with a long leg cast. He was seen in the clinic on many occasions and non-union of the tibia occurred with chronic osteomyelitis of the fracture site. On November 10, 1961, a sequestrectomy was done and two weeks following this the leg again drained copious amounts of purulent material. Cultures from the lesion were as follows:

DATE	ORGANISM	SENSITIVE DRUG
21 Feb. '61	E. Coli	Polymixin®, Furadantin®, Neomycin®
	Paracolon	Chloromycetin®, Kanmycin®, Neomycin®, Furadantin®
	Beta enterococcus	TAO®, Penicillin
11 Aug. '61	Aerobacter Aerogenes	Chloromycetin®, Neomycin®
26 Oct. '61	Pseudomonas Paracolon	Terramycin®, Neomycin®, Chloromycetin®, Neomycin®, Furadantin®

\*Mycifradin sulfate, Squibb.

It was noted from the culture and sensitivity reports that the bacterial flora was changing, but Neomycin® was consistently found to be the most effective drug.

On December 19, 1961, the patient underwent Isolation perfusion of the right leg. Under general endotracheal anesthesia, an incision was made on the medial aspect of the lower one-third of the right thigh and the femoral artery and vein were isolated. At this point the patient was heparinized with two mg of aqueous heparin per Kg. of body wt. and tapered polyethylene French Catheters were inserted into the artery and vein. A pneumatic tourniquet was inflated to 600 mm. of mercury at mid thigh proximal to the cannulated vessels. The Sigmamotor pump was used with the Perfuso-pac (Travenol) bubble oxygenator. The priming solution was 800 cc Dextran® and A. C. D. solution (Acid Citrate Dextrose) and this was used to flush out most of the heparinized blood from the isolated extremity. This blood was discarded and the mycifradin sulfate was added to the perfusate in a dose of one-tenth of a gram per kilogram (approximately 7.0 gm). The perfusion was carried out for 30 minutes. At the end, the mycifradin perfusate was washed from the extremity with fresh Dextran® and saline. The cannulas were removed and the vessels repaired.

Upon release of the tourniquet, the patient had a brief period of apnea, caused by the curare like effect of mycifradin on the nervous system. There were two other direct effects of the perfusion procedure. The blood urea nitrogen rose from a pre-operative level of 14 mgm percent to 38 mgm percent on the fourth post-operative day. This returned to normal in two weeks. There were no red cells casts or change in the microscopic urine picture. The other effect was that of local edema of the extremity distal to the point of insertion of the catheters. This was not marked and subsided completely in one week. A posterior splint was applied to the leg and a loose gauze dressing was used to cover the draining sinus. At

the time of this report the patient has not drained from the lesion and epithelial tissue has almost covered the wound. While he has only been observed for a short period of time, it is felt that he will be benefited by this procedure.

### Comments

An antibiotic can be delivered in high concentration to an infected area with minimal toxicity using the isolation perfusion technique. The indications for this procedure at the present time seem to be limited to those patients with resistant strains of organisms in whom standard modes of therapy have failed. Among the limiting factors of the procedure are: the short period of contact between antibiotics and organisms, the reduced blood supply to the part, and the persistence of devitalized tissue within the area of infection. Any procedure that would enhance the blood supply to the part, such as hyperthermia, sympathectomy or sympathetic block should be investigated.

The role and timing of sequestrectomy with perfusion is unsettled; however, the previous studies have shown that adequate local therapy should accompany or precede the treatment by perfusion.

There were two variations in technique in the above case from those presented by Ryan<sup>7</sup>. In this patient, sequestrectomy preceded perfusion by almost five weeks as compared to simultaneous sequestrectomy as reported by Ryan. Also, the flow rate of the pump was increased to approximately 300 cc/min. as compared to approximately 150 cc/min. that was commonly used in perfusion of malignant disease. It was felt that the increased flow rate would deliver more of the perfusate into the devitalized area of the infection. Studies are contemplated to quantitate the level of antibiotic that can be delivered into the infected area.

Since most perfusion treatments are carried out for limited periods of time, less than one hour, the use of antibiotic drugs by this technique would constitute another form of stoss-



therapy (treatment by a single massive injection of a drug). Joseph<sup>1</sup> has reviewed the literature and found that in certain types of infection, mainly respiratory infection in children, a single massive dose of penicillin is as effective as the conventional long term treatment. Mycifradin sulfate may be used in this manner since it is bactericidal, not merely bacteriostatic, against a wide variety of gram positive and gram negative organisms.

The regional antibiotic perfusion for osteomyelitis is not meant to replace conventional forms of therapy such as, immobilization, sequestrectomy, and antibiotics, but to serve as an adjuvant form of therapy." Used in conjunction with standard therapy, it may be possible to eradicate infections which cannot otherwise be treated because of systemic toxicity produced by the antibiotics.

### Summary and Conclusions

Osteomyelitis that follows compound fractures of the lower extremity is still a major problem in clinical orthopedics today.

Through the use of isolation perfusion techniques, antibiotics that are too toxic for systemic use may now be used to treat chronic infection. This preliminary report on the use of Neomycin<sup>®</sup>\* perfusion in treating chronic osteomyelitis is to draw attention to this procedure as means of shortening the period of disability and hospitalization required for this disease.

Conventional forms of therapy should be used at first in every patient. When the bacterial flora changes so that the sensitive drugs cannot be used systemically, then isolation perfusion with the appropriate antibiotic should be considered.

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# Traumatic Injuries To The Elbow

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## Introduction

The complex elbow joint is comprised of four articulating surfaces: (1) trochlea-ulna, (2) capitellum-radial, (3) superior and (4) inferior radio-ulnar joints. The trochlea and capitellum surfaces allow flexion and extension; the radio-ulnar joints, pronation and supination. The capitellum and head of the radius are not in apposition as the trochlea and ulna. Therefore, pronation and supination occur, as do flexion and extension.

When the elbow is in extension, the prominences of the lateral and medial condyle and the tip of the olecranon are palpable and form a straight line. In flexion the three landmarks form an equilateral triangle. The radial head is prominently felt on the lateral aspect of the pronated proximal forearm. The carrying angle, the

long axis of the forearm in relation to the long axis of the upper arm, is normally laterally deviated to 15 degrees.

The development of the secondary epiphyseal centers are of clinical importance because they can be misinterpreted as fractures, or undiagnosed when rotation due to trauma is evident.

Epiphysis	Appearance In Years	Closure
1. Radial head	5	15
2. Olecranon	10	14
3. Capitellum	2	15
4. Trochlea	10	14
5. Medial epicondyle	5	20
6. Lateral epicondyle	12	20

Trivial to severe soft tissue and bony damage occurs in the elbow as with any locale. Why then is the physician concerned with the injured elbow joint? For one, it is conspicuous—for another—seemingly adequate care may not bring forth the results that the patient and the physician desire—and last—controversy as to management arises. Great-

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er emphasis is often placed upon appearance of the elbow after reduction rather than a deformed joint with an adequate range of motion; adequate in the sense that the necessary functions of flexion, rotation and extension attributed to the elbow are performed. In all treatments, the physician should consider what methods will provide the best end results, be they nonoperative or operative.

## I. SOFT TISSUE INJURIES

### A. SPRAIN (DIRECT TRAUMATIC INJURY)

Mild direct trauma to the elbow produces transient pain, localization of symptoms, 24-48 hours of guarded motion and eventual recovery with or without any specific therapy. Often X-rays are not only unnecessary, but unwarranted, unless symptoms persist. Hopefully, the term sprain, when used as a vague entity, will be replaced for that of traumatic injury.

### B. LATERAL EPICONDYLITIS

Repeated pronation and flexion at the wrist, as in bowling, tennis or throwing a baseball, can cause acute or chronic tearing of the origin of the forearm extensor tendons or periostitis. The clinical picture is pathognomonic with pain reproduced by extending the elbow, pronating the forearm, and dorsiflexing the wrist against a resistant force. Roentgenograms are negative, with the rare exception of a visible calcium deposit, anterior to the lateral epicondyle. The treatment is varied but excellent results are obtained by:

1. Limiting motion with a long arm posterior splint.
2. The injection of one per cent xylocaine with a steroid derivative directly into the painful site.
3. Physiotherapy in the form of direct ultrasound may afford relief if the above measures fail.

Surgery, although not often indicated, is advocated when pain persists despite nonoperative treatment. A three to four centimeter incision is made over the lateral epicondyle with distal stripping of the extensor communis fibers. The taut fibers are released. No visible gross or microscopic pathology is observed. Motion is begun after the posterior plaster-of-paris splint is removed in seven to ten days.

### C. MEDIAL EPICONDYLITIS

The mechanism of injury in contrast to lateral epicondylitis is repeated flexion and supination of the wrist as a baseball pitcher throwing a "drop". Intensification of pain occurs at the common flexor-pronator origin when the individual extends the elbow, supinates the forearm, and palmar flexes the wrist against a resistant force. Therapy is identical to that of a lateral epicondylitis.

### D. RUPTURE OF THE DISTAL BICEPS TENDON

The biceps tendon is commonly ruptured by attrition degeneration at or near its insertion into the bicipital tuberosity of the radius. It is occasionally injured by a forceful flexion of the elbow. An audible snap with antecubital pain is present. The flexed elbow reveals the retracted biceps tendon proximally. Generally, no therapy is necessary in the elderly patient as a useful but weakened extremity in supination and flexion is present. In the heavyduty worker, surgical reattachment of the tendon through the bicipital tuberosity is necessary. When surgery is performed a posterior splint is applied for three weeks. Motion may then be initiated.

### E. OLECRANON BURSITIS

Accumulation of fluid in the subcutaneous olecranon bursa is a result of acute or repetitive injury. Roentgenograms fail to show any bony abnormality but occasionally a spur of the tip of the olecranon may be present. The painful fluctuant bursae is aspi-



rated under aseptic technique. If clear fluid is obtained (hydroarthrosis), a steroid is injected into the sac and an Ace compression bandage is applied. When blood is obtained (hema-arthritis), the steroid is not injected into the bursa, a simple Ace compression bandage is necessary, extending to the palmar surface of the hand. Surgical incision of the bursa for release of the fluid will result in chronic bursitis or infection. Reaspiration in two or three days as fluid reaccumulates, may be necessary. The palpable spur, if it provides a continual source of irritation, is removed.

## II. BONY INJURIES TO THE ELBOW

### A. SUPRACONDYLAR FRACTURES

#### 1. Before Epiphyseal Closure.

This common childhood injury resulting from a fall on the outstretched hand is best treated with closed reduction and manipulation or traction. An undisplaced or displaced fracture of the distal humerus may produce such complications as Volkmann's ischemic contracture, injury to the radial, ulna or median nerve and brachial vessels, myositis ossificans, limitation of motion, epiphyseal damage with growth arrest, decrease of the carrying angle and pain. Treatment of the supracondylar fracture in a child will depend on the state of the peripheral vascular system of the extremity.

SUPRACONDYLAR FRACTURE	TREATMENT
I. Undisplaced	Posterior plaster splint, elbow flexed at 70° for 3-5 weeks.
II. Displaced with minimal antecubital edema.	Manipulation under general or conduction anesthesia, elbow flexed at 70° in a posterior plaster splint for 4-6 weeks.
III. Displaced with marked antecubital edema, peripheral vascular status good.	Dunlop's traction or Jones overhead traction (a threaded pin through the proximal ulna) 2-3 weeks with a posterior plaster splint for 3 weeks.

IV. Displaced, absence of radial pulse, good peripheral capillary circulation.	Jones overhead traction, 2-3 weeks, with posterior plaster splint for 3 weeks. Sympathetic ganglion blocks.
V. Displaced with absence radial pulse and capillary circulation.	Jones overhead traction in the operating room. If capillary circulation or radial pulse does not return within 2-3 minutes, surgical intervention with exploration of brachial artery is imperative.

#### 2. After Epiphyseal Closure.

Supracondylar fractures in adults are not as frequent and seldom include the vascular embarrassment found in children. The injury is often open. In the displaced fracture, a long arm circular cast or posterior splint is applied for six weeks. A displaced injury requires conduction or general anesthesia with closed reduction and application of a circular or posterior plaster splint for six weeks with the elbow at 70 degrees of flexion. If the reduction fails, as in an oblique fracture with marked rotation or the interposition of muscle tissue, open reduction is indicated only after skeletal traction has been attempted. The fracture site is apposed with threaded pins or screws. The arm is then placed in a posterior plaster splint for three to five weeks after which early motion is begun.

### B. T OR Y TRANSCONDYLAR FRACTURES

In a child, the treatment of choice is that of closed reduction under conduction or general anesthesia with a posterior plaster-of-paris splint for three to five weeks. When reduction is not possible or marked edema is present with adequate peripheral circulation, as in supracondylar injuries, side arm or overhead traction for two to three weeks is indicated. Surgical exploration as in a supracondylar fracture is done when radial artery and capillary circulation has been compromised.

In the adult, this is the most common fracture occurring in the distal end of the humerus.

us. Often, in open injury, the treatment of choice is manual reduction with compression of the condyle or overhead traction. With closed immobilization fibrous ankylosis of the elbow can occur, therefore, mobility is essential. The posterior splint is removed in six weeks and motion is begun in the elbow. When skeletal traction is used, immobilization is for three weeks and then a posterior splint is applied for the same length of time. Open reduction is indicated in uncomminuted injuries that can not be reduced. Threaded pins or screw fixation with early motion in three to five weeks is the treatment of choice. It is far wiser in the T and Y fracture to institute early motion than to obtain a perfect reduction with marked limitation of movement.<sup>1</sup>

#### C. MEDIAL OR LATERAL EPICONDYLAR INJURIES

In a child, a fracture of the lateral epicondyle results in displacement of that fragment in a counter clockwise direction due to the pull of the extensor digitorum communis tendon. The intact lateral collateral ligament acts as a hinge. With conduction or general anesthesia, reduction of the fragment can take place if the elbow can be adducted sufficiently to replace the lateral epicondyle. If this is unsuccessful, meticulous open reduction to avoid damage to the epiphysis is indicated with replacement of the displaced fragment with catgut fixation or threaded pins. A posterior splint is applied for ten to fourteen days and then early motion is begun. With an avulsion of the medial epicondyle by the direct pull of the flexor muscles of the forearm, the epicondyle may become intra-articular between the trochlea and ulna due to counter clockwise rotation. When this occurs, open reduction is necessary with the derotation of the fragment and fixation with threaded pins or catgut. The post-operative care is identical to a lateral epicondylar separation.

With both injuries, careful assessment must be made as to the status of the ulnar nerve. With a medial epicondylar fracture, direct

injury to the ulnar nerve occurs. A delayed ulnar nerve syndrome may be apparent when the medial epiphysis is closed with gradual lengthening of the elbow on the lateral side, stretching the nerve. When this occurs anterior transference of the ulnar nerve is necessary.

In the adult epicondylar fractures are unusual. The adult is not faced with the problem of epiphyseal injury. Treatment is with conduction or general anesthesia and compression of the fragment. A posterior plaster splint is applied for four to six weeks. If the fragments are markedly displaced, then their replacement with threaded pins is necessary. Early motion is instituted in three to five weeks after removal of the post-operative posterior plaster splint. A small painful fragment may be totally excised with or without reattachment of the medial or lateral musculature to the periosteum.

#### D. MEDIAL OR LATERAL CONDYLAR INJURIES

With condylar fractures extending into the joint, normal architecture should be restored as accurately as possible. Incongruity of the articulating surfaces, following closed reduction, under general or conduction anesthesia, will lead to limitation of motion and early osteoarthritis. The surgical approach is posterior with retrograde nailing.

In a child with displacement of the condyle, closed reduction is the treatment of choice. Gentle manipulation under general or conduction anesthesia often will reduce the condylar fracture. If this does not occur, then overhead traction is necessary. When angulation of greater than 20 degrees is present, or if the articulating surfaces are not in alignment, open reduction is carried out with gentle replacement of the fragment without internal fixation. A posterior splint for three to five weeks is applied.

In an adult, if closed reduction is not successful, open surgery is indicated with the insertion of threaded pin into the condylar areas. The elbow is placed at 70 to 90 de-

grees for three to five weeks. Early motion is then begun.

stability are open reduction and internal fixation of the coronoid fracture indicated.

### E. FRACTURES OF THE RADIAL HEAD

Fractures of the radial head are unusual in children, but common in adults. In a child, the radial neck is usually injured with subsequent displacement. With angulation less than 30 degrees, treatment is simply a posterior plaster splint for four to six weeks then early motion. If the fragment is displaced from 30 to 60 degrees or more, then closed reduction under general or conduction anesthesia is necessary. If there is a persistent angulation of the radial head of 60 degrees or more, open reduction is warranted. The radial neck is carefully realigned with the distal shaft and the epiphyseal area is avoided. DO NOT REMOVE THE RADIAL HEAD IN A CHILD, AS THIS PROVIDES ONE OF THE EPIPHYSES. Tragic and unwarranted shortening occurs.

In the adult, linear fractures of the radial head involving the lateral aspect, do not require removal. If the linear fracture exists on the articulating surface of the radial ulnar joint, its removal is indicated.<sup>3</sup> A comminuted radial head fracture in the adult should be removed to decrease complications of traumatic arthritis and limitation of motion. Aspiration of the elbow joint is not advocated, for this may lead to iatrogenic infection. In an adult, the removal of the radial head is best done within 24 hours using the anterior approach for decompression of the damaged brachial fascia. The insertion of the biceps tendon into the bicipital tuberosity of the radius is left intact to allow flexion and supination. Accurate hemostasis is imperative. Early motion in ten to twelve days is advocated after removal of the postoperative posterior splint.

### F. OLECRANON FRACTURES

An incomplete fracture of the coronoid is not significant. Only when there is a concurrent fracture of the trochlea, with in-

### FRACTURES OF THE PROXIMAL OLECRANON

	TREATMENT
I. Displaced, but reducible.	Posterior plaster-of-paris splint with the elbow in extension for 3-5 weeks.
II. Displacement due to triceps pull of greater than $\frac{3}{8}$ - $\frac{1}{2}$ inch after closed reduction.	Open reduction with an intramedullary nail or long screw. The arm is placed in extension for 4-6 weeks.
III. Comminuted olecranon fracture proximal to coronoid process.	Excision of the comminuted fragment with reattachment of the triceps tendon to the ulna shaft.

### G. DISLOCATIONS OF THE ELBOW

An elbow dislocation may be:

1. Posterior (common),
2. Anterior,
3. Lateral,
4. Medial.

The posterior dislocation creates rapid swelling in the antecubital space with a varus or valgus deformity, prominent olecranon and a shortened extremity. General anesthesia or brachial plexus block is administered; the forearm is displaced posteriorly, releasing the coronoid impinging on the posterior humerus. Anterior pressure is exerted on the humerus and the forearm is brought forward and flexed. Full extension of the elbow is not necessary; if this is done, damage to the brachialis muscle or anterior capsule, leading to myositis ossificans, will occur. Immobilization is maintained by a posterior splint with 70 to 90 degrees of elbow flexion and supination for three weeks. Early active exercises are important to regain elbow motion. The patient should not be allowed to carry excessive weights or



passively to stretch his elbow. Complications are:

1. Limitation of joint motion.
2. Traumatic arthritis.
3. Myositis ossificans.
4. Instability.
5. Fractures of the ulna, radius or humerus.
6. Pain.
7. Brachial artery damage.
8. Compression or trauma to the ulna, median, or radial nerve.

In an unreduced dislocation two weeks old, if an attempt at closed reduction is not successful, open surgery though formidable is necessary.

In a Monteggia fracture, closed reduction is done with digital pressure exerted on the radial head and the elbow placed in full supination in a posterior splint is necessary for six to nine weeks. If reduction fails, surgery with reduction of the ulna fragment by internal fixation (intramedullary nail or screw) and replacement or removal of the radial head. With surgery, early motion (three weeks) is possible.

Radial head dislocations occur most frequently in children due to a distraction force. The painful pronated elbow joints do not show any X-ray evidence of dislocation, although comparative views are taken. Do not fail to reduce the displacement, despite a negative X-ray, as the diagnosis is often clinical. No anesthesia is necessary—supinate the forearm and apply direct pressure over the radial head. The child is relieved of discomfort immediately, and is able to pronate and supinate the joint. A posterior splint for three to five days is applied.

## H. OPEN INJURIES TO THE ELBOW

Immediate surgical intervention is required in an open joint injury with vascular or neurologic complications, with tendonous, bony

or muscular tissue interposition preventing normal joint relocation. Surgical care of open dislocation depends on basic surgical skill, not on antibiotic coverage. The involved joint is contaminated, and infection may develop despite prompt treatment. After the open wound is primarily debrided and irrigated with 5000 to 7000 ml. of isotonic saline, gowns, drapes and gloves are changed, a secondary debridement with separate instruments is carried out. This consumes time, but it is far less troublesome than the months of hospitalization spent by the patient with a joint infection. With adequate debridement, most open dislocations are closed primarily. If the wound is grossly contaminated, the joint capsule must be closed, but soft tissue may be left open and sterile dressings applied. The choice of primary or secondary closure of the soft parts and skin, three to five days after initial surgery, must be the surgeon's decision. There can be no rigid routine, but each case should be judged separately on the basis of the surgeon's experience and training. Medication includes a booster of 0.5 ml of tetanus toxoid or 5000 units of tetanus anti-toxin (after negative skin test), and a broad spectrum antibiotic. If the fragments are maintained in good position, a posterior splint or a circular cast is all that is necessary. The elbow is generally placed in 60 to 90 degrees of flexion. If the fracture is comminuted, Jones skeletal traction is advised. Skeletal traction provides an accessibility to wound dressing along with immobilization of the fragments and early joint motion. After three weeks, a posterior splint is used and early motion is begun six weeks after injury. Metal should not be placed in an elbow injury at the time of surgery. When adequate reduction is not maintained, postoperatively, allow soft tissues to heal (10 to 14 days) then carry out an open reduction with metallic implant. When satisfactory joint motion is not achieved after four to six weeks, arthroplasty for the sedentary person and arthrodesis for the heavy duty worker is advocated.<sup>2</sup>

### Conclusion

Elbow fractures provide the surgeon with a difficult challenge. The majority of these injuries are best treated by closed reduction. Those fractures which require open reduction are:

#### A. Before Epiphyseal Closure

1. Rotary displacement of the medial epicondyle.
2. Rotary displacement of the lateral epicondyle.
3. Radial head displacement greater than 60 degrees.
4. Open injuries.

#### B. After Epiphyseal Closure

1. Unreducible supracondylar, transcondylar or condylar fractures of the elbow.
2. Olecranon injuries with marked displacement of the proximal and distal fragments.
3. Fractures of the medial portion of the radial head.
4. Comminuted fractures of the radial head.
5. Open injuries.

Post-operative care is very important in elbow injuries. No massage or forceful manipulation must be encouraged, for this will tend to increase the incidence of myositis ossificans and peri-articular adhesions. It may be wiser to have a poorly united fracture in adults, yet have a good range of motion.

As a child has an open epiphysis, non-operative therapy is prudent, advisable and necessary. Do not encourage your patient to carry heavy objects, since this is a form of passive motion and leads to the above complications. A guarded prognosis should be given to all elbow injuries for despite prompt and adequate care, a residua of traumatic arthritis, myositis ossificans, distal sudeck's atrophy, ossifying hematoma and decreased range of joint motion may occur.

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# Some Medical Aspects Of Chemical Agents

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Ft. McClellan, Alabama

German experiments with insecticides in the 1930's led to the discovery of a highly toxic series of compounds.<sup>1</sup> Some members of the series were also examined for possible use as chemical agents for military operations. Members of the series with military importance are included under the term, "Nerve Agents." They are organophosphorous or quaternary ammonium compounds which act either as anticholinesterase agents or, possibly, directly to produce acetylcholine-like effects.<sup>2</sup> In either case the resulting picture is that of acetylcholine intoxication.

There is a certain aura of mystery about the term "nerve agent." If we were to be suddenly presented with a patient and told he was a victim of a nerve agent, the treatment we should administer might be somewhat obscure. However, if we were told that this is a case of acetylcholine intoxication, we would more likely have a better understanding of what was going on in the patient and what a rationale of treatment could be. For the past several years reports of acci-

dental deaths due to insecticides of similar properties have appeared in the literature. Some of these are tetraethyl pyrophosphate (TEPP), diisopropyl fluorophosphate (DFP), parathion, and malathion. Such compounds are used in crop dusting, gardens and sometimes, even in the home. Similar and related compounds have been used in medicine for the treatment of certain diseases, such as glaucoma, urinary retention, and myasthenia gravis.<sup>3</sup>

In discussing the nerve agents, a good place to start is with some basic physiology and pharmacology. The cholinergic nerves release acetylcholine at their terminals, and this substance stimulates the effector organ. This also occurs at certain synapses. Cholinesterase is found wherever acetylcholine occurs in the body. This enzyme hydrolyzes acetylcholine to acetic acid and choline, and thus acts as a "balance" on the acetylcholine. When the cholinesterase is depressed by a nerve agent, the body must remanufacture its own supply. Depending on how severely the cholinesterase level has been depressed, it may take a month or more for the level to return to normal. Because of this slow return a cumulative action of an anticholinesterase agent is possible. Another enzyme, choline acetylase, is also present. This brings about the reconstitution of acetylcholine from acetic acid and choline, completing the economy of the biological cycle.

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Major Uhrig is a graduate of New York Medical College, Flower and Fifth Avenue Hospitals. He is with the U. S. Army Chemical Corps, Ft. McClellan, Alabama.

Presented at a meeting of the Alabama Division, United States Section, of the International College of Surgeons, March 28, 1962, Birmingham, Alabama.



The action of the nerve agents results in an accumulation of excess acetylcholine at several sites: i.e., at postganglionic cholinergic nerve terminals to smooth muscle, cardiac muscle, and exocrine glands (the muscarinic effects), at preganglionic nerve endings to autonomic ganglia, at motor nerves to striated muscle (nicotine-like effects), and within the central nervous system.<sup>3, 4</sup>

Effects may be listed:

*Muscarinic effect: Response*

Glands	Increased secretions
Lacrimal	
Salivary	
Nasal	
Bronchial	
Gastrointestinal	
Smooth muscle	<i>Response</i>
Iris	Miosis
Bronchial	Constriction
Cardiovascular	Bradycardia
Gastrointestinal	Increased motility, cramps, diarrhea
Bladder	Frequency
	Involuntary micturition

*Nicotinic effect:*

Ganglia	Hypertension
Neuromuscular junction	Fasciculation, paralysis

*Central Nervous*

*System effect:*

(CNS)	Apprehension, hyperexcitability, weakness, incoordination, collapse, convulsions, respiratory failure
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Nerve agents may enter the body by inhalation, by absorption through any body surface, or by ingestion of contaminated food or water. Nerve agents may be dispersed as a vapor, spray, or aerosol. Entry by inhalation usually produces its first signs and symptoms in the eye, nose, and upper respiratory tract. After absorption through the skin, gastrointestinal signs and symptoms

are prominent early.<sup>3</sup> Absorption of enough nerve agent by any route results in generalized systemic effects.<sup>4</sup> A drop of nerve agent the size of a pinhead inhaled as a vapor or aerosol could be lethal in five to 30 minutes.<sup>2</sup> Lethal quantities can also be absorbed through the eye, skin, and gastrointestinal tract. Liquid nerve agent absorbed through the eye brings the fastest lethality; when it is absorbed through the skin, onset of effects may take as long as 15 minutes to two hours. The larger the dose, the faster the toxic action for any route of entry. In the absence of treatment, death is caused by anoxia brought about by airway obstruction, weakness to paralysis of the muscles of respiration, and depression of the central nervous system respiratory center.

The high toxicity and rapidity of action of the nerve agents demand prompt aggressive treatment to save the patient.

The most important principle of treatment is immediate initiation.<sup>4</sup>

a. Terminate exposure

(1) Mask; remove from contaminated atmosphere if possible.

(2) Decontaminate if necessary:

(a) Eye—a critical emergency; flush with water for thirty seconds while holding breath, then mask.

(b) Skin.

1. Pinch blot.

2. Flush with copious amounts of water.

3. Remove any contaminated clothing or equipment, being careful to avoid cross contamination of the rescuer.

b. Atropine is the standard antidote for nerve agent poisoning, and is administered for symptoms of this poisoning. It blocks the action of acetylcholine on receptors normally stimulated by this drug. It counters only the muscarinic effects and to some extent the central nervous sys-

tem effects. It has little or no effect on the nicotinic peripheral neuromuscular response, so respiratory muscle paralysis can occur. Therefore, other therapy must be considered. Atropine is given parenterally. In the military, each individual treatment kit carried with the protective mask contains a 2 mg syrette of atropine. This is given by the individual to himself or by someone at hand as soon as any nerve agent symptoms are noted. This dose seems high when compared to that ordinarily used clinically, but it must be understood that the nerve agent casualty can tolerate much more atropine than unexposed individuals. While over-atropinization may produce incapacitating symptoms, large amounts have been taken without fatal results. Ten mg of atropine in a single dose has been given to normal adults intravenously without endangering life.<sup>4</sup> In the presence of nerve agents much more atropine can be tolerated. The minimum lethal dose of atropine for adults is taken to be 80 to 130 mg.<sup>5</sup> Atropine is given at intervals until toxic signs and symptoms subside or until mild symptoms of atropinization occur. Intravenous administration of atropine by medical personnel is preferred where feasible. In using atropine to treat a nerve agent casualty, atropine should be titrated against the amount of agent, as noted by the severity and persistence of symptoms. In severe cases mild atropinization should be maintained for at least forty-eight hours.<sup>4</sup>

#### c. Respiratory Resuscitation.

Atropine has little or no effect on the peripheral neuromuscular response which may occur in the respiratory muscles. Therefore, artificial respiration may be necessary if respiration is impaired.

##### Artificial Respiration:

Clear the airway and administer mouth-to-mouth or mouth-to-nose resuscitation, if the atmosphere is not contaminated. If the atmosphere is contami-

nated, some method other than mouth-to-mouth must be used. The modified Silvester method may be tried. Certain devices are being developed for use in a contaminated atmosphere such as the mask-to-mask device and a new mechanical resuscitator.<sup>2</sup> Increased airway resistance may be found in nerve agent casualties, and this must be taken into consideration.<sup>3</sup> Severe nerve agent casualties may require artificial respiration for 1 to 5 hours and repeated doses of atropine.

#### d. Oximes.

In patients accidentally exposed to organophosphorous insecticides, favorable results have been reported following treatment with oximes intravenously.<sup>6, 7</sup> A dose of 500 to 2000 mg<sup>3</sup> of either 2 PAM (2 pyridine aldoxime methiodide) or P<sub>2</sub>S (Pyridine methane sulfonate) appears to reactivate the cholinesterase and may also in some way attack or block the inhibitor. Oximes reduce the amount of artificial resuscitation needed. They are considered an adjunct to the treatment of the nerve agent casualty, however, and never as a primary treatment. The oximes are receiving further study.

#### e. Other means of treatment.

- (1) Some convulsions may not be controlled by atropine. Barbiturates are contraindicated if there is respiratory depression. They may, however, be used sparingly if adequate ventilation is maintained by the resuscitator. Trimethadione has been reported effective.<sup>3, 6</sup>
- (2) Mydriatics: Atropine or homatropine may be used locally to relieve miosis and ciliary spasm.

With the nerve agents there is the potential for causing a high number of casualties in a short time. Many of these would need immediate, detailed and extensive medical care if they were to survive.

The vesicant or blister agents have been known since World War I. They have the capability to produce a high number of casualties but a low number of fatalities. In WWI 400,000 casualties from mustard were reported.<sup>10</sup> The fatalities from mustard were about two to three percent of the casualties.<sup>1, 2, 8</sup> Most of these were caused by secondary pulmonary infections, some of which could be controlled by antibiotics today.

Mustard is an oily liquid heavier than water which ranges from colorless to dark brown. It is highly volatile. Mustard is highly corrosive to all human tissues. It destroys the cells with which it comes in contact, and thus direct contact produces local tissue damage. Absorption into the blood stream may cause various systemic effects. The hematopoietic system is particularly vulnerable to this toxic action.

The eyes are very sensitive to mustard contamination. Exposure to mustard can produce severe inflammation, pain, photophobia, and incapacitating conjunctivitis where the eyes are swollen shut. Corneal damage with permanent impairment of vision is possible. Eye burns may be classified in four groups:

- a. Conjunctivitis
  - (1) Mild
  - (2) Severe
- b. Corneal involvement
  - (1) Mild
  - (2) Severe—about 0.1%<sup>2</sup> of the cases. These could have permanent eye damage.

Exposures so slight that they do not affect the skin or respiratory tract may cause conjunctivitis.

Mustard produces effects on the skin varying from mild erythema to gross vesication. The severity of the lesions and rate of development is influenced by:

- a. Weather
- b. Degree of exposure
- c. Area concerned, i.e., moist soft thin-skinned areas are more sensitive.

Mustard has an insidious action. No pain or other symptom is noted on exposure. A latent period of six to twelve hours follows. Itching, mild burning, and erythema are then noticed in the affected area. The skin reaction that follows may show in turn, increasing erythema, vesication, resorption, healing, and pigmentation. The blisters may or may not be painful. Healing may take weeks. Secondary infections may occur.

Inhalation of mustard vapor primarily affects the laryngeal and tracheobronchial mucosa. The inflammatory reaction may vary from a mild to severe type with necrosis of the epithelium. Exudation with diphtheritic-like pseudomembrane formation may occur. Bacterial infection may complicate the picture further. In WW I the mortality of two to three percent<sup>1, 2, 8</sup> from mustard was mainly due as previously mentioned, to secondary respiratory infections. In most inhalation cases, where symptoms developed, a bronchitis occurred. This cleared in four to six weeks, leaving no after-effects. Some few cases are recorded with chronic bronchitis and pulmonary fibrosis.<sup>1</sup>

Nausea, vomiting, and pain follow ingestion of mustard. Diarrhea and prostration may also occur. The inflammatory reaction of the gastrointestinal mucosa may go on to necrosis, desquamation, and hemorrhage. Gross gastrointestinal involvement has not been a big problem in the past. Absorption of mustard from the intestinal tract may lead to damage to the hematopoietic system and a radio-mimetic picture.

Self treatment for mustard includes termination of exposure by masking, movement to a clear area if possible, and decontamination as needed. The mask will protect the face and eyes and will prevent inhalation or ingestion. Any liquid mustard in the eye must be decontaminated immediately, before masking. Flush with water for at least thirty seconds and then mask. Decontamination is of no use for the effect of the vapors on the eye or skin. Skin decontamination of liquid may be done by pinch blotting and flushing with water. In the military, vesicant



agent protective ointment is used. If none is available, soap and water may be used.<sup>2, 4</sup> For skin decontamination of the liquid mustard to be effective, it must be done within three to five minutes after exposure. Contaminated clothing should be removed. Contamination of the hair required clipping and discard.

Once the burns have occurred, they are treated like any other burn. Respiratory and gastrointestinal manifestations are treated symptomatically. Antibiotics are to be used only if indicated for infection.

### **An Incident of Contamination**

A few years ago an incident occurred which demonstrates what can happen if chemical contamination is inadvertently spread. On March 9, 1956, in Longlaville, (Meurthe et Moselle) France, some children playing in a rubbish heap found an old artillery shell. They wanted to salvage some of the metal in it. After unscrewing the fuze, they poked around in the shell with a piece of wire and it detonated. Three of the boys were seriously wounded and two slightly. People who later found remnants of the shell reported that it had an odd oily film and peculiar odor.

No one suspected that this was an old chemical shell from WW I containing the agent, mustard.

The children were rushed to a nearby hospital and treated for their wounds. One boy died that night, and one the next morning.

First symptoms appeared in those handling the patients two to six hours after exposure. The surgeon reported noting erythema and some swelling of his hands as he scrubbed for surgery about two hours after he first examined the patients. About five hours after exposure he developed nausea, vomiting, vesicles on the face, conjunctivitis, blepharitis, and photophobia. The left hand and arm became swollen up to the axilla. The right hand showed swelling and blister

formation. He also developed pharyngitis, dysphagia, tracheitis, and bronchitis.

The third child, who was seriously wounded, had a shell fragment removed from his liver and lived. However, he also showed the following at an examination performed five days after the event: conjunctivitis, blepharitis, photophobia, severe corneal involvement on the left eye with ulceration, vascularization, and some opacification. The right eye was similarly involved but to a lesser degree. Pigmentation and severe blistering were found on the face and extremities. Pharyngitis, tracheitis, and bronchitis were reported also.

As soon as it was realized that chemical contamination was involved, French Departmental Services were notified. Specialists from the Toul Engineers were called, and they handled the decontamination of the area.

All persons who had come in contact with the contaminated casualties, in rescue, evacuation, and hospital treatment, developed latent appearance of lesions. Eye signs, skin burns, respiratory involvement, and nausea and vomiting were recorded either separately or in combination of some or all manifestations.

Relatives who came to the hospital to visit and leaned near the patients were involved. The entire night shift of the hospital was contaminated. The final toll of the incident was two boys dead, one seriously injured, two slightly injured, and twenty-one others affected by mustard contamination.

### **Principles in Handling Contaminated Chemical Casualties**

The approach is to provide a means to prevent spreading of contamination and at the same time properly care for any wounds which may have been incurred by the patient. In general, if the contamination is due to a liquid nerve agent, the following guides are suggested:

- a. Control massive hemorrhage.
- b. Decontaminate if necessary.
  - (1) Face—then adjust mask
  - (2) Skin
  - (3) Remove contaminated clothing
- c. Further treatment for shock, wounds, or chemical intoxication as necessary.

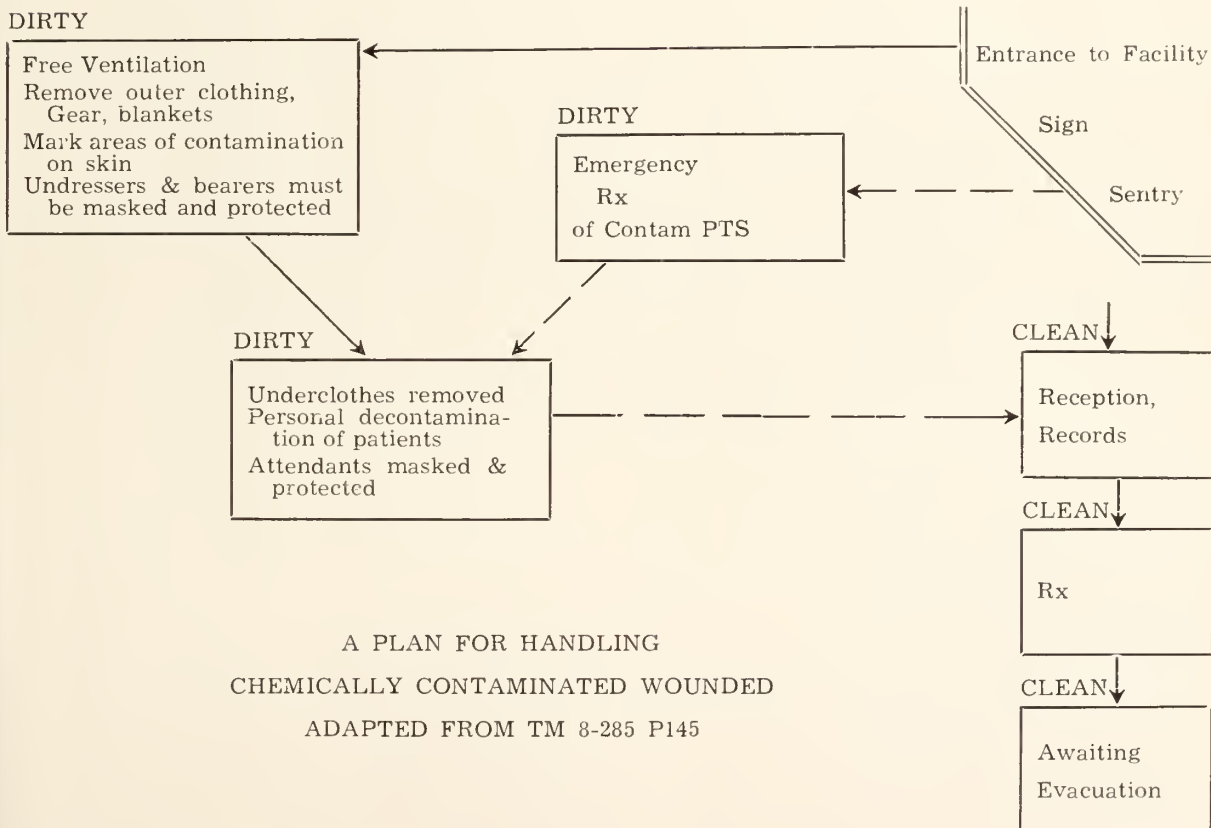
If the contamination is due to liquid vesicant agent, a routine may be suggested to:

- a. Control massive hemorrhage.
- b. First aid for shock or wounds of such severity that further delay may threaten life.
- c. Decontamination.
  - (1) Skin
  - (2) Remove contaminated clothing
  - (3) Adjust mask.
- d. First aid for less urgent wounds.

In handling contaminated casualties, "dirty" and "clean" areas are set up. Con-

taminated casualties are taken to the "dirty" area, where they are decontaminated. Some means should also be provided for emergency life-saving surgical treatment of contaminated wounded, where necessary. All people working in the contaminated area must be properly protected with masks and protective clothing. Contaminated clothing and equipment must be kept in a suitable place to prevent spread of contamination before they are properly decontaminated. No one is admitted to the clean area unless he has been properly decontaminated. No random cross traffic of workers or patients between the clean and dirty areas is permitted. Once the patients have been decontaminated, they are received into the clean area, and medical and surgical treatment follows as needed. A suggested basic set-up for handling chemically contaminated patients is shown in the diagram.

As members of the Medical profession we should be prepared to handle any casualty



which may occur in modern warfare. Casualties from chemical agents are recognized as one of the types which may occur. Therefore, we should be prepared to properly treat casualties caused by chemical agents.

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With the introduction of the sulfonamides and the antibiotics, much security developed in the profession's and in the public's mind. Prior to the antimicrobial era, about 50 per cent of all deaths were due to or associated with infection. Probably syphilis, gonorrhea, and tuberculosis could be eradicated with universal cooperation. H. Close Hessel-tine, M. D., in *Trustee*, April 1962.





# Editorials

## MR. MEDICINE

Because of his television appearances, Dr. Edward R. Annis of Miami is "Mr. Medicine" to many Americans today.

The president-elect of the American Medical Association is doing an excellent job of erasing the false image of the medical profession that has been created by opponents of our system of voluntary practice of medicine.

In an address at the 13th Biennial International Congress of the International College of Surgeons at the Waldorf-Astoria Hotel, Dr. Annis said that physicians and surgeons in this country have been so busy keeping up with the scientific advances in medicine and have been so preoccupied with bringing the best of medical care to the American people that we have neglected our role as citizens. As a result, others have created an image for us, and it is a false one.

Dr. Annis said we must go to the people and tell them things that they do not know. As Thomas Jefferson said, "Given the facts, people make sound judgements."

He said we must explain to the public why medicine costs so much. People do not want horse and buggy transportation and they do not want horse and buggy medicine either. We need money if we are going to practice good medicine. How many people realize that across the nation, out of every \$100 paid to a hospital for its bill, more than \$70 goes for labor? This \$70 includes the cost of nurses, technicians, people who keep the hospital clean, and other employees. Doctors, however, are not included in this cost. Nor does this figure include the drugs or equipment.

Dr. Annis pointed out that the drug industry in this country spends more than \$100,000,000 annually for research, and no other industry spends as much as that for research. He emphasized that for every thousand products researched by the drug industry only 40 or 50 reach a marketable stage.

Dr. Annis is an excellent speaker and debater. His speaking engagements throughout the country during his tenure as president-elect and president of the American Medical Association will help greatly in erasing today's false image of medicine. "Mr. Medicine's" activities during the next two years will reflect medicine's true picture.

## THALIDOMIDE

During the past few months we have read and heard many comments concerning the European drug, thalidomide.

The tragedy of thalidomide is well-reported in an editorial in the October 15th issue of the New York Journal of Medicine.

According to the editorial, Alpha (N-phthalimide) glutarimide looked like the perfect sedative-hypnotic. Its toxicity in the usual testing procedures was so low that not even LD50 could be established. In heavy dosage it did not depress respiration or affect cardiac function. Thus it seemed an ideal drug in that it could not be used for suicidal purposes; in fact the record shows one intended suicide ingested 144 times the normal dose without effects.

Synthesized in 1953, after the usual animal and clinical testing, it went on the market in

West Germany in 1957. The first inkling of toxicity in practice came from England in February, 1961, where peripheral neuritis was reported as a possible toxic effect of long-term use of thalidomide. Not until November, 1961, did it become apparent to the original manufacturer in West Germany that the drug had a teratogenetic effect when taken during the first trimester of pregnancy. Children born of mothers who had taken the drug early in pregnancy were being born with the congenital deformities of phocomelia, ectromelia, and amelia. The manufacturer immediately alerted his licensees on the continent and abroad.

The editorial points out that fortunately for us, the F. D. A. had not yet released this drug to the American market. Deliberation and caution on the part of this government bureau worked this time in our favor. Although the drug had been dispersed for clinical trial in this country, only ten known cases of congenital defect have been reported to date.

Much research now needs to be done to extend animal testing of drugs to include teratogenic effects. Unfortunately we may learn that these results may occur in man but not in lower animals. There is, however, a lead in regard to thalidomide. It has been reported that pregnant rabbits tested with the drug failed to produce viable offspring.

The editorial states that we are prying so close now to the hidden secrets of life that our scientists must literally look before they leap. Added safety factors are already under study by scientists in both industry and government. The Coggeshall Commission created by the Pharmaceutical Manufacturers Association is charged with broadening scientific knowledge regarding the predictability of action in humans of the potent drugs likely to emerge in the future. The objective of the Commission is to reduce danger to the lowest possible degree without discouraging imaginative research from which stems increasing release from disease.

Our sympathy goes out to all concerned with this dreadful tragedy. We condemn no one. We have learned a bitter lesson but take renewed strength for the continuing task of developing safe and useful drugs, the editorial concluded.

Since the thalidomide tragedy, the Pharmaceutical Manufacturers Association has published a brochure entitled "Safety of Prescription Drugs" to help overcome public misconceptions which arose as a result of the thalidomide publicity.

This four-page brochure is available to you, without cost, for your waiting rooms. It is designed to help answer your patients' questions about drug safety. A major portion of it is devoted to a chronological outline of steps used in testing drugs before they are marketed. It cites the use of nearly nine million animals by pharmaceutical researchers in 1961 and explains how toxicity tests are performed and what information is obtained.

You can obtain copies of this brochure by writing the Pharmaceutical Manufacturers Association, 1411 K Street, N. W., Washington 5, D. C.

### AMA-ERF DRIVE

The Association's special committee on American Medical Association's Education and Research Foundation, under the chairmanship of Dr. R. C. Speir, Jr., of Guntersville, is conducting its annual fund raising drive this month.

Part of the monies collected during this drive will be used to augment AMA-ERF's new medical loan guarantee program. The goal of this program is to help eliminate the financial barrier to medicine for all who are qualified and accepted by approved training institutions. It is designed to provide a means of financing a substantial portion of the cost of a medical education.

Under this program, administered by AMA-ERF, a loan guarantee fund has been established. On the basis of this fund, the

bank will loan up to \$1,500 each year to students. The Education Research Foundation in effect acts as co-signer. For each dollar on deposit in the ERF's loan guarantee fund, the bank will lend \$12.50.

More than 3,300 students, interns, and residents have borrowed more than \$6,000,000 through this fund since it was started last February. Physicians and others have contributed almost \$700,000 to the loan guarantee fund, which makes possible these loans.

The guarantee fund is almost depleted, and more money is needed immediately to keep up the loan program. Eventually it will become self-sustaining as loans are repaid, but right now substantial financial help is needed.

Help keep this important program going by sending in your check to AMA-ERF, 535 North Dearborn Street, Chicago, today.

#### PHYSICIAN POPULATION BOOSTED BY 4,500

The physician population of the United States and its possessions increased by about 4,500 in 1961, the American Medical Association reported recently.

Medical licensure statistics for 1961, compiled by the AMA's Council on Medical Education and Hospitals, were published recently in the AMA Journal.

A total of 8,023 first licenses to practice medicine and surgery were issued in 1961, the report showed. Since approximately 3,500 physicians died during the year, the physician population increased by about 4,500, compared with a net gain of about 4,330 in 1960.

Of 8,714 applicants for licensure by written examination, 7,650 passed while 1,064 (12.2 per cent) failed, the report showed. The rate of failure, however, in approved medical schools was 2.8 per cent. Twenty-six approved schools had no failures among their graduates.

The greatest number of graduates from any one school to be examined was 214 from the

University of Tennessee College of Medicine, the report showed.

Statistics also were reported on the Educational Council for Foreign Medical Graduates, founded in 1957 to certify that foreign-trained physicians entering the United States had an education equivalent to that of graduates of approved medical schools in this country.

The Council, which has held eight qualification examinations for foreign medical graduates, said the "net effect" of the ECFMG certification plan has been not to restrict but rather to increase both the number and the quality of foreign medical graduates coming to the United States for graduate training in hospitals.

#### FAMOUS ALABAMA PHYSICIANS

The *Journal* wishes to congratulate Mr. Walter Davis and the Durr Surgical Supply Company on its current series of advertisements featuring the life history of some of Alabama's more famous physicians.

The new institutional-type ads are being devoted to the six native Alabamians who have brought fame to our state by being president of the American Medical Association.

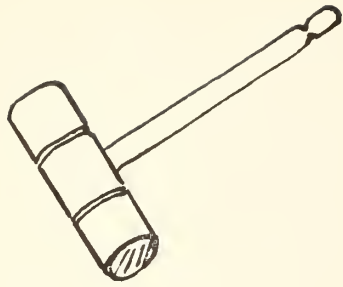
The fact that Alabama has contributed six presidents doesn't appear on the surface to be an impressive figure until you stop to think that 1962 marks the 114 anniversary of the American Medical Association and that we now have 50 states in the Union.

The first advertisement, which appeared in the September issue, depicted the life of Charles Alexander Pope of Huntsville.

The second ad, appearing on page 5 in this issue, is on William Owen Baldwin of Montgomery.

The life history of John Allen Wyeth of Guntersville, William Crawford Gorgas of Mobile, Edward Henry Cary of Union Springs, and James Somerville McLester of Birmingham will be told in future issues.





# President's Page



## *Should Physicians Strike?---Never*

"When a physician strikes"—a concept so new and so foreign to all professions, particularly to medicine, that the impact on the medical profession and on the people (recipients of medical care) may not be adequately assessed for months or years.

Two medical magazines (Medical Economics and Materia Medica) have published articles discussing how U. S. physicians feel about striking. One survey (random survey of doctors) revealed that 79.9 per cent of all physicians believe that a "strike" is justified when "government impedes the giving of good medical service." And 68.3 per cent of all physicians believe a strike is justified when the "government imposes unfair restrictions on the doctors right to earn a living." These are answers to hypothetical questions based on a presumption that federal legislation socializing medical care had been passed by Congress. It supposes an atmosphere which is not prevalent today.

Strikes are certainly a reality in various parts of the world. Recently "physician's strikes" occurred in Austria, Italy, France, and Japan. Strikes were threatened in Germany, England, Greece, and other countries using a compulsory tax program to finance government-controlled health care.

Physicians in Saskatchewan went on strike (July, 1962) against an inflexible govern-



*Dr. John G. Davis, M.D.*

mental plan to control every phase of medical practice.

The doctors lost in the compromise agreement because:

1. The doctors accepted the principle of government compulsion with respect to medical affairs.
2. The doctors dropped their insistence on repeal of the Medical Care Act, where every citizen (whether he uses the program or not) must pay extra taxes to support the law.

Thus, socialized medicine has gained a foothold on the American continent. The law is on the statute book. In Saskatchewan it is a *fait accompli*.

A physician's strike—or boycott—or by any other name—is a strike against the people—against the sick—against those who need and deserve medical care.

The physician has much to lose should a strike occur and practically nothing to gain except a few minor concessions. When a strike is imminent, the battle has already been hopelessly lost—most frequently by DEFAULT.

The prestige of the profession would be irreparably impaired. Disillusionment would be rampant. Lack of respect and confidence in the integrity of the individual physician would be intensely evident. Doctors cannot walk out on patients; it would be equivalent to withholding police and fire protection in the face of disaster.

Federal legislation reflects the will and the mood of the people (public opinion) as interpreted by our constitutionally elected legislators. The medical profession will never strike against laws enacted by our federal government, however distasteful and unpopular they may appear. To do so would be suicidal. Physicians' services cannot be treated as a public commodity to be bought and sold in the market place.

Our background of service to humanity, our inherent respect for law and order, and our fundamental faith in our educational system would preclude any such action.

When labor unions call a strike, which it has a perfect right to do under federal statutes, it is aimed at management. Labor unions do not strike against the federal government. They strike for higher wages, better working conditions, fringe benefits, and union jurisdiction. Many of their strikes work a severe hardship on the consumer public—the public be damned attitude. As a result federal legislation to curb these practices is more evident than a few years ago.

The lesson we should have learned from Saskatchewan is that "it can happen to us." The record shows that compulsory tax supported legislation for hospitals was enacted in Saskatchewan in 1946. The physicians in Canada waited too long before they really began to fight. It was the familiar story—too little, too late.

The American Medical Association, with the help of many organizations who share our convictions, has defeated Forand and King-Anderson type legislation during the last four sessions of Congress. It can be done again—but only with the wholehearted support of the medical profession and our allies.

American medicine must not be confused by suggested reprisals, boycotts, or threats of non-participation. We must remain firm in our conviction to fight compulsory tax programs under the social security system. Our objectives must be clear, and our methods must be subjected to the most severe scrutiny.

Our opponents are smart, extremely patient, dedicated to the theme of social welfare and have unlimited finances. They will capitalize on any defection in our ranks.

American medicine must not be decimated by proposed strikes or threat of strikes which will undoubtedly cause consternation among our supporters. We must be resolute, determined, dedicated to better medical care, and show confidence in the leadership of the American Medical Association.

With this combination we will *win our battle for survival* under the free enterprise system.

M. VAUN ADAMS, M. D.



## ASSOCIATION FORUM

# Crisis

SENATOR HARRY FLOOD BYRD

Virginia

It was with a good deal of reluctance and, I will say, a good deal of sadness that, as chairman of the Senate Committee on Finance, I was compelled to ask for an increase in the Federal debt limit from \$298 to \$300 billion. I did so because I was told that unless the debt limit was increased, our Government could not pay its current bills.

*I do not recall in my long service on the Senate Committee on Finance that there ever before arose such a condition as was presented to us.*

It had to be recognized that the failure of this Government to pay its bills would create chaos at home and abroad in the free world.

Such a situation could not be permitted to occur.

Under circumstances which had been allowed to develop, we were virtually forced to go more deeply into debt to pay running

expenses continually coming due in excess of revenue income.

**Federal financial crises such as this are recurring with increasing frequency. Enactment of the bill raised the limit on the Federal debt \$7 billion in 8 months.**

A year ago the debt limit was \$293 billion. In June, 1961, at the request of the administration, the debt limit was raised to \$298 billion. Now, at the request of the administration, it has been raised to \$300 billion.

Treasury figures relating to the recent \$2 billion debt-increase show deterioration in the fiscal situation has been precipitous since the June request to raise the debt limit to \$298 billion.

**Unnecessary spending is increasing. Non-military Federal expenditures in the first 7 months this year, through January, 1962, ran 10 per cent higher than during the same period last year.**



Total Federal expenditures in the July-January period were \$3.9 billion higher than last year; nonmilitary expenditures increased \$2.4 billion, and military expenditures increased \$1.5 billion.

We have been the policeman, the banker, and the Santa Claus for the free world more than 15 years. Recent figures showed U. S. foreign aid has totaled more than \$100 billion, and it is continuing.

Meanwhile we are faced with a menacing deficit in the balance of international payments between the United States and nations we have assisted. It has run as high as \$4 billion a year.

*This situation, in combination with domestic deficits which threaten or cause inflation, has resulted in a drain on our gold supply. We have lost 30 per cent of our gold in relatively few years. I emphasize: We have lost 30 per cent of our gold reserves.*

We are already laboring under a terrible tax burden. It is confiscatory in some areas. Deficits are continuing; and the debt is at a peak never reached even for 4 years of global shooting war.

In addition to \$300 billion in direct debt, we have assumed contingent liabilities at home and abroad amounting to untold billions more.

Now we propose to underwrite the debts of the United Nations.

*Before July, 1962, the administration is going to ask that the debt limit be raised again by \$8 billion, lifting the limit by \$15 billion in a year. As the situation stands now, this will be the year of the highest revenue and the highest debt in history.*

It is clear that continually raising the statutory limit on the Federal debt is only temporizing with dangerous deterioration in the Government's basic fiscal condition.

**As chairman of the Finance Committee—and I hope I shall be joined by other Senators—I shall oppose to the utmost of**

**my capacity raising the debt limit an additional \$8 billion, to \$308 billion for the next fiscal year when the administration says there will be a balanced budget.**

A thorough examination of the financial position of the United States should and will be made by the Senate Committee on Finance before the next request to raise the limit on the Federal debt is granted.

Work on the examination has started. The Government's obligations are huge, complex, and world-wide. The study will be exhaustive. It is concerned with hard facts as distinguished from fiscal fantasy.

As a starting fact—regardless of how important the justifications were—there have been 24 Federal deficits in the past 30 years. The deficit last fiscal year was \$3.9 billion. This year, ending June 30, 1962, it will be \$7 billion to \$10 billion, to make it a total of \$11 billion to \$14 billion for the 2 years. It is my frank and considered opinion that there will not be a balanced budget next year. I would be willing to venture, as strongly as I can, the prediction that there will be a very substantial deficit unless something is done to stop unnecessary spending in the fiscal year beginning on the first of July, 1962.

**Is it possible for us to destroy ourselves from within?**

**Every American should ask himself that question.**

Nothing could serve Khrushchev better. Survival of free nations, including our own, depends on the financial soundness of this Government.

*Neither our form of government nor our system of enterprise can survive insolvency. All of us know that we cannot continue much longer to spend and spend, and tax and tax, and borrow and borrow.*

**Nothing now before Congress or any other branch of Government is more important than protection of the nation's fiscal structure. It is being examined. Meanwhile further impairment should be stopped.**

# THREAT TO YOUR SCHOOLS

CONGRESSMAN EDGAR W. HEISTAND

California

**You can be certain that federal aid to schools will result in federal control, despite protestations and provisions included in proposed legislation righteously asserting that the federal government could in no way usurp the authority of the states and localities and exercise of control over education.**

Federal aid, to any degree, cannot exist without federal control. As a matter of fact, there should not be federal aid without federal control, it being the responsibility of the federal government to so supervise and control its allocations that waste and misuse is kept at a minimum.

*If you doubt that the federal aid to education bills now before Congress would mean eventual federal control of education, read the booklet published in 1961 by the U. S. Department of Health, Education and Welfare, titled, "A Federal Education Agency for the Future." Carefully analyze what the Office of Education is planning for tomorrow's schools. Note how the report repeatedly stresses the necessity for federal action in formulating educational policies, how it recommends review of teacher preparation, curriculums and textbooks. Note particularly how the report states that we must implement internal education projects in the United States, indicating future closer relationships with UNESCO, ministries of education abroad; and others.*

This quietly circulated publication of the U. S. Office of Education, produced and printed at the expense of the taxpayer, will show you that there has been no basic change in the plans of the professional po-

litical educationists who see the educational system as a means of remaking our society to fit their ideas of what is right and proper. It should emphatically and completely put at rest any doubts that the wheels are turning fast in the direction of federal control over education.

The Commissioner of Education concluded a foreword to the report in this booklet by saying that the full evaluation and adoption of recommendations will require a period of review and that he anticipated that "much of this activity will take place through normal administrative processes within the Office and the Department." This means that the report will be largely implemented on the administrative level without congressional action and approval.

*You can, therefore, expect that much of the attempt to create federal control of education will take place quietly, without public notice.*

**If the attempt succeeds you will someday find federal inspectors in your schools and on your campuses. You will find teachers afraid to speak against the official approved administration policy. You will find writers of textbooks forced to write only what is approved by high government officials sitting in judgment in Washington.**

**If such aid is extended to the parochial school system, you could find a banning of clerical robes and of reference to religion in the classroom. If such aid is not extended to them while it is extended to public schools, it can mean the gradual extinction of parochial education.**

Under the cry of "emergency," the Department already has its foot in the door with the National Defense Education Act of 1958, which was born of the sputnik panic as a measure to provide temporary programs for needy students of science and engineering.

A host of federal aid to education bills is before the House Education Committee, of which I am a member. They cover a range of topics: federal aid to the handicapped, federal aid to the blind, federal aid to scholarships and construction, and federal aid to elementary and secondary schools. Some of them would put the Federal Government into the permanent business of teacher training at all levels of education, both public and private. That inevitably must result in specifications, standardized courses, and controls. **This is "federal control" with a vengeance!**

The previously mentioned report, "A Federal Education of the Future," has some startling items about our education future. In the report is revealed a proposal to create a "U. S. Education Agency" of three new Bureaus, one of which would be "International Education." The report talks of "implementing international projects in the United States" and goes on to say: "The next decade will bring closer and multiple relationships with ministries of education abroad and international organizations such as UNESCO, the OAS, the International Bureau of Education, and others—as problems in education are attacked bilaterally and multi-laterally on a world-wide basis."

*Do you want international controls and conventions directing, by agreement, American education methods and curriculums?*

For example, the United States faces the threat of takeover by United Nations Educational Scientific and Cultural Organization (UNESCO) of its entire school system for purposes of socialization. This will be made possible by UNESCO's proposed new treaty, participated in by ten Communist countries, known as the Convention Against Discrimination in Education. The UNESCO resolution was passed in Paris in December, 1961, and

is now in the State Department awaiting submission to the Senate for ratification. It is important to remember here that a treaty ratified by the Senate becomes "the supreme law of the land" (says the Constitution) and "supersedes all other laws" (says the Supreme Court).

*This proposed treaty, or resolution, could deliver the entire American educational system into UNESCO international control.*

*It could close every private and parochial school in the United States.*

*It could automatically remove education from under "domestic" law and control.*

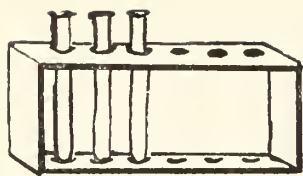
*It encompasses every phase and facet of education, including philosophy of subject matter taught your children.*

A prominent religious leader in California, deeply interested in education, is reported as asserting that the proposed new treaty or resolution "would substantially eliminate all local control of public education at state or local level," that "it would place the direction and regulation of all American education under federal control—control by the United States Department of Education and the National Education Association," and that "the resolution would override this federal control and make it subsidiary to UNESCO as a world court and final international arbiter of education."

*This is an effort to make you aware of the threat to your schools. It is indeed a socialist frontier.*

**If you do not desire federal control in the field of education, then you do not desire federal aid to education. If you are opposed to international or one-world control of your schools from abroad, then you are opposed to UNESCO's proposed new treaty known as the Convention Against Discrimination in Education. You owe it to those who represent you in Congress to let them know, promptly, your views about who should control the education of your children.**





## THE DEADLY HOME ACCIDENT PROBLEM

FOREST E. LUDDEN, M. S., M. P. H.

Director

Division of Health Education and Information

The opportunity is ever present for physicians and the health departments to step up their efforts to promote an active home safety program.

A need for a home accident prevention program in Alabama has existed for some time. Accidents in the home and on home premises cause more than 25 per cent of all accidental deaths. We are approaching 30,000 accidental deaths at home annually in this country. Yet, deaths are just one indication of the problem. The other major index would be the annual number of injuries occurring at home. Home accidents injure close to 20 million persons a year. This in round numbers means that one person in nine is injured in the home annually.

The use of the epidemiological concept is appropriate for physicians and health officers since accidents are recognized as a health problem of these proportions. The methods of epidemiology have been shown to be applicable not only to infectious disease but to noninfectious or chronic disease. Accidents certainly deserve the application of epidemiological method.

Our immediate objectives must be the elimination from the home of those conditions which cause accidents and an adequate

educational program within the home environment to keep it that way. The problems in this field do not differ from those of other programs where specialized training of professional staff is necessary. In order to achieve the desired action, we must first create public interest in the problem. Then we must be ready to convey technical information needed to meet this problem.

Many skeptics suggest that the reason accident statistics stand out today is that deaths from communicable diseases are and have been declining. While this may be one factor, it is the responsibility of each of us to place emphasis on those programs which have the greatest need. It is believed that home accident prevention is in the category of immediate need. The two powerful resources, private physicians and health departments, should begin to exert the leadership necessary to prevent needless home accidents.

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*Accidental Injury Statistics*, U. S. Department of Health, Education, and Welfare, Public Health Service, May, 1961.

*The Role of Human Factors in Accident Prevention*, U. S. Department of Health, Education, and Welfare, August, 1960.

# DEPARTMENT OF HEALTH

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

### SPECIMENS EXAMINED

September 1962

Examinations for malaria	8
Examinations for diphtheria bacilli and Vincent's	36
Agglutination tests	456
Typhoid cultures (blood, feces and urine)	379
Brucella cultures	6
Examinations for intestinal parasites	2,472
Darkfield examinations	2
Serologic tests for syphilis (blood and spinal fluid)	28,122
Examinations for gonococci	1,712
Complement fixation tests	72
Examinations for tubercle bacilli	2,859
Examinations for Negri bodies (smears and animal inoculations)	181
Water examinations	2,430
Milk and dairy products examinations	4,253
Miscellaneous examinations	4,341
Total	47,329

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## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

### CURRENT MORBIDITY STATISTICS

1962

	Aug.	Sept.	*E. E. Sept.
Tuberculosis	129	142	155
Syphilis	103	111	108
Gonorrhea	343	426	334
Chancroid	4	4	3
Typhoid fever	3	1	5
Undulant fever	1	0	2
Amebic dysentery	6	12	1
Scarlet fever and strep. throat	92	61	28
Diphtheria	0	2	7
Whooping cough	11	33	23
Meningitis	2	4	8
Tularemia	1	0	0
Tetanus	1	1	3
Poliomyelitis	4	15	11
Encephalitis	0	0	2
Smallpox	0	0	0
Measles	15	20	15
Chickenpox	0	3	5
Mumps	5	11	15
Infectious hepatitis	52	69	25
Typhus fever	0	1	3
Malaria	1	0	0
Cancer	645	721	454
Pellagra	2	1	0
Rheumatic fever	11	10	12
Rheumatic heart	22	24	19
Influenza	28	40	36
Pneumonia	142	149	112
Rabies—Human cases	0	0	0
Pos. animal heads	1	1	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

### PROVISIONAL BIRTH AND DEATH STATISTICS, AUGUST 1962, AND COMPARATIVE DATA

Live Births Deaths Causes of Death	Number Registered During August 1962			Rates* (Annual Basis)		
	Total	White	Non-White	1962	1961	1960
Live Births	6,994	4,380	2,614	24.9	26.1	26.5
Deaths	2,261	1,459	802	8.0	8.1	7.9
Fetal Deaths	135	67	68	18.9	20.7	21.7
Infant Deaths—						
under one month	123	67	56	17.6	24.5	21.8
under one year	157	79	78	22.4	32.3	30.0
Maternal Deaths	1		1	1.4	6.7	8.0
Causes of Death						
Tuberculosis, 001-019	21	14	7	7.5	6.1	8.3
Syphilis, 020-029	2	1	1	0.7	3.6	1.1
Dysentery, 045-048	1		1	0.4		1.1
Diphtheria, 055						
Whooping cough, 056						
Meningococcal infections, 057	1	1		0.4	1.1	
Poliomyelitis, 080, 081	1		1	0.4		
Measles, 085						0.4
Malignant neoplasms, 140-205	329	230	99	117.2	122.9	117.3
Diabetes mellitus, 260	30	13	17	10.7	14.2	10.5
Pellagra, 281						
Vascular lesions of central nervous system, 330-334	305	164	141	108.6	114.7	98.9
Rheumatic fever, 400-402					0.4	0.4
Diseases of the heart, 410-443	739	524	215	263.2	246.5	259.4
Hypertension with heart disease, 440-443	137	60	77	48.8	63.0	40.4
Diseases of the arteries, 450-456	54	41	13	19.2	21.7	17.7
Influenza, 480-483	3	1	2	1.1	1.1	1.4
Pneumonia, all forms, 490-493	50	30	20	17.8	18.2	14.8
Bronchitis, 500-502	6	6		2.1	0.4	1.8
Appendicitis, 550-553	6	3	3	2.1	1.1	1.4
Intestinal obstruction and hernia, 560, 561, 570	12	8	4	4.3	6.4	4.3
Gastro-enteritis and colitis, under 2, 571, 0, 764	8	2	6	2.8	7.1	4.0
Cirrhosis of liver, 581	21	18	3	7.5	3.9	6.1
Diseases of pregnancy and childbirth, 640-689	1		1	1.4	6.7	8.0
Congenital malformations, 750-759	21	17	4	3.0	4.8	3.4
Immaturity at birth, 774-776	31	16	15	4.4	9.4	5.7
Accidents, total, 800-962	155	108	47	55.2	49.2	59.5
Motor vehicle accidents, 810-835, 960	77	58	19	27.4	24.6	30.7
All other defined causes	339	213	126	120.8	121.1	124.5
Ill-defined and unknown causes, 780-793, 795	125	49	76	44.5	34.2	34.6

\*Rates: Birth and death—per 1,000 population  
 Infant deaths—per 1,000 live births  
 Fetal deaths—per 1,000 deliveries  
 Maternal deaths—per 10,000 deliveries  
 Deaths from specified causes—per 100,000 population

# *The Woman's Auxiliary*

Would you like to make a journey with me? For the second time I had the privilege of attending the Fall Conference of state presidents, presidents-elect, national officers and chairmen of the Woman's Auxiliary to A.M.A. The flight to Chicago was an enjoyable experience as I had not flown before.

The meeting began on September 30th, with registration at 4:30 p.m., and was held in the Drake Hotel on Lake Michigan. Other activities of the day were a hospitality and get-acquainted meeting and membership dinner, as guests of the national Auxiliary.

Work began in earnest Monday, October 1, at 9:15 a.m. when the meeting was called to order by our own lovely and efficient Mrs. William G. Thuss of Birmingham, national president. Following the invocation by the Reverend Dr. Paul B. McCleave, director, Department of Medicine and Religion, A.M.A., Mrs. Thuss presented the president-elect, Mrs. C. Rodney Stoltz, conference presiding officer.

Space will not allow me to catalogue the complete program. Each chairman presented her plan of work and gave suggestions for implementing it. Some of them used regional chairmen and Auxiliary members, while others used outstanding speakers. Included in the three-day workshop was a tour of A.M.A. headquarters and the opportunity of meeting the staff. Dr. F. J. L. Blassingame, Executive Vice-President, brought greetings on opening day. Dr. Ernest B. Howard, Assistant Executive Vice-President, spoke to us on Wednesday.

The meeting was not all work as there were two lovely luncheons with Mrs. Thuss presiding. On Monday Dr. George M. Fister, A.M.A. President, was the speaker. I was seated at the speakers table. How nice it is to be president of the national president's home state.



MRS. JOHN KIMMEY

Tuesday afternoon it was my privilege to tell how our guidebook, "Health Careers in Alabama," came about. As you know, this was a project of the Auxiliary financed by the Medical Association. We answered questions from interested listeners after the meeting.

Miss Margaret Wolfe, Executive Secretary of the National Auxiliary, gave valuable aid to Mrs. Thuss and Mrs. Stoltz in making the conference an outstanding success.

Has this brief account of a most rewarding journey aroused your interest? If it has, send your name, address, and one dollar to Mrs. J. F. Holley, Florala, for a subscription to the Bulletin. A complete account will be published in the November issue.

Thank you for sending me,

*Ida Kimmey*

President



# OBITUARIES

**BLACK**—John W. Black, M. D., a native of New Castle, England, died on September 15, 1962, in Birmingham at the age of 82.

Dr. Black received his pre-medical training at the University of the South and received his medical degree from the Birmingham Medical College in 1909. He did post-graduate work at Bellevue and New York Hospitals.

Dr. Black, a general practitioner, was a member of the Jefferson County Medical Society, Medical Association of the State of Alabama, and the American Medical Association. He was a life member of Zamora Shrine Temple. Surviving is his wife, Mrs. Myrtice Denton Black of Birmingham.

**BYRNE**—David Crawford Byrne, M. D., a native of Bay Minette, Alabama, died in Magnolia Springs on September 22, 1962, at the age of 76.

Dr. Byrne received his medical training at the University of Alabama Medical School in Mobile, interned at Gouverneur Hospital in New York, and served his residency at Flushing Hospital in Flushing, New York.

He served as a major in the Army Medical Corps in France during World War I.

Before retiring, Dr. Byrne practiced medicine in Sumter County where he served as president of the Sumter County Medical Society. He was a member of the Black Belt Medical Society, Medical Association of the State of Alabama, and the American Medical Association.

Survivors include his wife, Mrs. Helen Embler Byrne; a daughter, Mrs. John Ray Nelson, Bon Secour; two sons, David Crawford Byrne, Jr., of Magnolia Springs and Albert Embler Byrne of Montgomery; two sisters, Mrs. W. G. Hall and Miss Mary G. Byrne of Bay Minette; and five grandchildren.

**CALDWELL**—Hale A. Caldwell, M. D., a native of Grand Rapids, Michigan, died in Birmingham on May 19, 1962, at the age of 71.

Dr. Caldwell was a graduate of the Medical College of Alabama. He was a member of the Jefferson County Medical Society and the Medical Association of the State of Alabama.

He is survived by his wife, Mrs. Ruth Pitts Caldwell of Birmingham.

**FLOWERS**—James Harrell Flowers, M. D., of Newton, Alabama, died on April 14, 1962, at the age of 82.

Dr. Flowers, a native of Clayton, Alabama, took his pre-medical training in Chattanooga, Tennessee, before receiving his medical degree from Baylor University College of Medicine. He served his internship at the same school.

Dr. Flowers was a member of the Houston County Medical Society, Medical Association of the State of Alabama, and the American Medical Association. He received his Fifty Year Service Certificate from the State Association in 1955.

Survivors include his wife, Mrs. Bertha Orr Flowers; four daughters, Mrs. E. W. Nash, Mrs. J. L. Lewis, Mrs. L. D. Connors, and Mrs. Joseph Gallo; his son, Alpha B. Flowers.

**SEAY**—James Elbert Seay, M. D., of Birmingham died on August 29, 1962, at the age of 61.

Dr. Seay like his father and grandfather was a general practitioner. He attended the University of Alabama before entering the University of Tennessee College of Medicine. He was a member of the Jefferson County Medical Society, Medical Association of the State of Alabama, and the American Medical Association. He was cited by the Lloyd No-

land Foundation for 35 years of service. Dr. Seay is listed in "Who's Who in the South and Southeast."

Surviving are his wife, Mrs. Eddie Hill Seay; a son, Dr. James Elbert Seay, III, of Minnesota; a daughter, Dr. Margaret Jean Seay Lipperty of Wisconsin; his mother, Mrs. Elma Austin Seay of Virginia; a sister, Mrs. Hugo L. Black of Virginia; a brother, R.-Adm. Erskin Austin Seay of Florida; two granddaughters.

ROSSER—William J. Rosser, M. D., of Birmingham died on May 31, 1962, at the age of 70.

A native of Goodwater, Alabama, Dr. Rosser completed his pre-medical training at the University of Alabama and received his medical degree from Tulane University School of Medicine.

Dr. Rosser was engaged in the practice of proctology in Birmingham where he was a member of the Jefferson County Medical Society, Medical Association of the State of Alabama, and the American Medical Association. He was also a member of the American Proctologist Society and the Southern Surgical Society. Dr. Rosser was a staff member of St. Vincent's Hospital, Birmingham Baptist Hospital, East End Memorial Hospital, and South Highlands Infirmary.

He is survived by his wife, Mrs. William J. Rosser, and a son, Dr. Robert G. Rosser of New Orleans.

TAYLOR—Adrian Stevenson Taylor, M. D., Bessemer, died on July 25, 1962, at the age of 79.

Dr. Taylor attended the University Military School in Mobile and the University of

Alabama prior to entering the University of Virginia School of Medicine and Harvard Medical School.

He was a member of the Jefferson County Medical Society, the Medical Association of the State of Alabama, Southern Surgical Society, American Medical Association, and the American College of Surgeons.

He is survived by two daughters, Mrs. Luther Beley and Miss Harriet Buck Taylor of Birmingham; two sons, Richard V. Taylor of Birmingham and Adrian S. Taylor, Jr., of Jacksonville, Florida; two brothers, Dr. Richard V. Taylor and William B. Taylor, and one sister, Mrs. J. Lloyd Abbot, all of Mobile.

WATTERSTON—Charles J. Watterston, M. D., Birmingham, died on July 12, 1962, at the age of 78.

Dr. Watterston received his medical degree from Tulane University School of Medicine and interned at St. Vincent's Hospital in Birmingham. He did postgraduate work at Johns Hopkins University.

He served as a captain in the Medical Corps of the U. S. Army during World War I.

Dr. Watterston was with the Veterans Administration for 20 years and was chief diagnostician at the V. A. Hospital in Birmingham when he retired.

He was a member of the Jefferson County Medical Society, Medical Association of the State of Alabama, and the American Medical Association.

Survivors include his wife, Mrs. Thelma Watterston; one son, Charles David Watterston; one brother, Roderick Watterston, New Hampshire; one sister, Mrs. Anna Daspit, New Orleans.

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## The Enuresis Problem In Children

PAUL A. PALMISANO, M. D.

Cincinnati, Ohio

### Introduction

That bed wetting is a common pediatric problem of considerable importance is best emphasized when the incidence of the condition is considered. A study of the types of illnesses seen in a representative group of young children in Newcastle upon Tyne from birth to age five years showed that approximately nine per cent of 847 individuals were wet at night fairly frequently.<sup>1</sup> Hallgren's study in Sweden showed that 12 per cent of boys and eight per cent of girls in the general population consistently wet the bed after the age of four years<sup>2</sup>. Another study showed an incidence as high as 22 per cent in a group of 500 unselected children,<sup>3</sup> and Bloomfield,

with statistics on 4,000 children showed that 12.2 per cent at age four years had the problem and that 7.3 per cent of the same children were still wetting at age seven years.<sup>4</sup>

Because of the not infrequent confusion in the literature concerning precise definitions of the term "enuresis," it shall be limited to mean repeated involuntary micturition after the age of four years in the absence of any *gross* organic lesion. This in no way denies the possible existence of very mild or obscure anatomic lesions, and workers will not adhere to the rigid age limit of four years. About 75 per cent of cases have never had any long dry period and are said to have "primary" enuresis.<sup>2</sup> When the difficulty begins after a dry period of one year or more, it is termed "acquired."

### Etiology

The "causes" of enuresis that have been proposed over the years have been outnumbered only by the astounding array of treatments offered. It is rare to find any group

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Dr. Palmisano is a graduate of the University of Cincinnati College of Medicine and is an instructor in pediatrics at his alma mater.

From the department of pediatrics, University of Cincinnati College of Medicine.

Presented at the 101st annual session of the Medical Association of the State of Alabama, April 27, 1962, Birmingham, Alabama.



of pediatricians who can come to agreement as to the best form of management. This report, to a certain extent as Hallgren's,<sup>2</sup> attempts to divide possible causes into two major groups: somatic and psychogenic.

#### A. SOMATIC

I. Low grade chronic infection of the urogenital system has been presumed by many to be causative. Kjellberg<sup>5</sup> reported that 21 per cent of cases show detectable lesions of varying severity; usually trigonourethritis. Braithwaite<sup>3</sup> showed that 53 per cent of 98 enuretic girls had vulvitis, but stated that the study was not controlled. He definitely showed that phimosis was not a cause. Thirty-eight of 60 enuretic service men gave definite histories of urgency and dysuria of long duration as compared with only two per cent of controls.<sup>6</sup>

II. In recent years small bladder size has been strongly incriminated as the prominent cause of primary enuresis. Vulliamy has shown less functional bladder capacity than normal.<sup>7</sup> Muellner feels that persistence of infantile bladder control is responsible for this and makes exercises (designed to enlarge the bladder) the basis for his treatment.<sup>8,9</sup> Paradoxically, he forces fluids on these children in order to aid bladder "stretching" and reports excellent over-all results.

III. Cerebral dysrhythmia has also been considered by many as responsible for some cases. Pierce et al. showed that 25 per cent of enuretic adults had "abnormal" E.E.G.'s as compared to 1.7 per cent of controls.<sup>6</sup> Another study put the number up to 76 per cent of 111 bed-wetters.<sup>10</sup> Dysfunction of the hypothalamus is known to cause bladder contractions.

IV. Many physicians have felt that unusually deep sleep is an important factor in bed-wetting. Boyd has recently published an excellent review of this subject.<sup>10</sup> One series showed that 50 per cent of enuretics gave such a history,<sup>11</sup> another that 74.5 per cent were deep sleepers.<sup>12</sup> One obvious approach to the proof of such a theory would

be to use drugs that tend to "lighten" sleep. Amphetamines have been very popular in this regard and a number of investigators have reported dramatic cures following their use.<sup>11, 12, 13, 14</sup> Rolf Ström-Olsen<sup>13</sup> used a dose as high as 30 mgms. of dextroamphetamine at bedtime without marked disturbance in sleep—pointing out the extraordinary tolerance of these "deep sleep" enuretics to such drugs. Lewson<sup>14</sup> showed that the results were *not* due to the placebo effect. However, Boyd<sup>10</sup> presented rather straightforward evidence that, really, such children were no more difficult to awaken than normals. It should not be forgotten that such drugs such as amphetamines have a direct effect on the bladder, causing relaxation of the detrusor muscles<sup>15</sup>—thus the problem is again clouded.

V. Allegric cystitis has also been proposed.<sup>16</sup>

VI. Vulliamy<sup>7</sup> showed that enuretics do not have polyuria.

#### B. PSYCHOGENIC

Many textbooks of pediatrics seem to place great emphasis on emotional causes for bed-wetting. Pierce and Lipcom showed that the mean I. Q. in a group of adult enuretics was 83 as compared to a mean of 116 in controls.<sup>17</sup> Hallgren pointed out one helpful clinical fact—the majority of enuretics who also wet during the day, had far more emotional problems than those with only nocturnal enuresis.<sup>2</sup> Bed-wetting seems to be more common in children of lower social classes.<sup>1</sup> Up to 75 per cent of enuretics give a history of other members of the family with the same problem.<sup>6, 2</sup> However, this latter finding can point just as strongly to genetic causes as to emotional ones. Acquired enuresis is more common in disturbed children<sup>2</sup>.

#### Treatment

As can be seen from the above discussion, enuresis is a symptom with many possible causes. If there is good evidence of underlying emotional problems, particularly in a pa-

tient with the acquired type and in whom daytime wetting is frequent, then the approach should be psychotherapeutic. Muellner<sup>8,9</sup> has shown that children with small bladders usually produce only two to four ounces of urine at each voiding. With forcing of fluids and "holding" of urine as long as possible, cures often result when the child is able to void 10 to 12 ounces at a time.

If a history of deep sleep is obtained in a child with primary enuresis, then the amphetamines may produce remarkable results.<sup>11, 12, 13, 14</sup> In the author's experience, such children may be started on 5 mgm. of dextroamphetamine at bedtime, and this dose gradually increased by increments of 2.5 mgm. until either improvement occurs or sleep is severely disturbed. Many children often do quite well on 10 to 15 mgm. doses.

Ephedrine, which possibly could affect sleep and certainly produces a local effect on the bladder, has been recommended by some.<sup>18, 19</sup> Atropine-like drugs, again because of their relaxing action on detrusor muscles, have been used for years—usually in the form of Tincture of Belladonna at bedtime. Banthine and Probanthine, because of their anticholinergic effect, have been recommended<sup>3,9</sup> but one study showed these drugs to produce little effect.<sup>20</sup> That the amphetamine drugs also have strong anticholinergic action has already been mentioned.<sup>15</sup> A number of the newer "psychic energizers" such as Tofranil have been used in varying doses by many with good results.

Several conditioning devices are on the market and are used with success<sup>21, 22</sup> but are often expensive and could well produce emotional problems themselves.

### Conclusion

In conclusion, it should be stated that enuresis is a complex problem with various causes. All bed-wetters deserve a careful physical examination. The importance of an exhaustive history cannot be over-emphasized. If there is any evidence that an underlying gross organic lesion exists, then ap-

propriate laboratory studies are indicated as well as urologic consultation. These patients should be designated as primary or acquired enuretics. Finally they may be further subdivided into such types as: "Deep-sleepers; children with small bladders; emotionally immature, etc." This approach is not offered as the final solution, but it can lead to some order in the management of a common and complex problem.

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# Toxic Reactions To Local Anesthetics

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The use of drugs in the treatment of disease is complicated by the toxic manifestations or side reactions which are produced in addition to the therapeutic effect. Irrespective of the value of the given drug, one must never disregard this adverse action, and it is important to recognize that all drugs are basically poisons. Drugs classified as local anesthetics often mislead in this respect due to the fact that their principal use is restricted to a localized area of the body. Naturally one would infer that systemic actions were negligible, or even nonexistent. It is important to remember that any drug that is introduced within the intact skin of a patient produces systemic effects whether the effects are demonstrable or not.

The available information on drug reactions is limited due to the fact that reactions occur infrequently and consequently the mechanisms of action are not well understood nor easily studied. Sensitivity is a term com-

monly applied without a clear understanding as to whether this refers to allergic manifestations or merely the reaction to a very small amount of the drug. In Table I four types of reactions to drug therapy are listed of which characteristic pharmacological action is by all means the most important for the local anesthetic drugs.

## Types of Drug Reaction

TABLE I

1. Characteristic Pharmacological Effect
  - a. hyperreactivity
  - b. rapid absorption
  - c. overdosage
2. Allergy
3. Idiosyncrasy
4. Psychogenic

As one examines the many case reports of "reactions to local anesthetics" one finds little evidence for allergic manifestations from this group of drugs with the exception of the cutaneous eruptions which are often found among the dentists who use large quantities of local anesthetics.<sup>7</sup> True generalized allergic manifestations, such as anaphylactoid reactions, are exceedingly rare.<sup>2</sup> It is especially unlikely to find allergic manifestations in patients who do not have a well recognized

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allergic state of long standing. Except for this group of patients the so-called allergic reaction to local anesthetic drugs can be substantially discounted. If such a reaction should occur it would be manifested by the typical allergic patterns, such as an asthmatic attack or the development of angioneurotic edema. The confusion concerning "sensitivity" to local anesthetics is illustrated by the following case report.

### Case Report

A 21 year old white student nurse was scheduled for the excision of a pigmented nevus on the back of the neck. Two years previously she had a history of "a reaction to procaine" in a dentist's office which led to loss of consciousness and subsequent hospitalization. The hazard of general anesthesia for this minor procedure led to a careful investigation of the "sensitivity reaction". Initial skin tests to procaine and lidocaine (Xylocaine®) were reported positive in the clinic. A repeat of the skin tests in the Department of Anesthesiology were negative for both procaine and lidocaine. With special precautions, the excision of the nevus was scheduled under local infiltration of lidocaine. Before the procedure small doses of both lidocaine and procaine were injected intravenously without producing any systemic effects. The excision was then performed satisfactorily using 15 cc of one per cent lidocaine as the local anesthetic. It is obvious the patient was not allergic to either procaine or lidocaine and that the reaction was likely due to agents or factors other than the allergic manifestations of local anesthetics.

The third type of drug reaction, idiosyncrasy, is listed to cover those reactions of drugs that we cannot properly classify in the first two situations. Despite our increased knowledge of drugs, both as to mechanism and to range of action, we must always admit that certain phenomena are as yet not well understood. It also follows, however, that the occurrence of this type of reaction

will be very rare, and a given drug reaction should never be described in this manner unless circumstances argue strongly that the other types of reactions do not apply.

A more likely explanation of many atypical reactions is psychological disturbance. Psychogenic reactions are only partially understood and may well account for many reactions when the dosage of the drug is minimal. We are all familiar with the husky army recruit who faints while waiting for his inoculation. The subjective effects of epinephrine, included with the local anesthetic injected by the dentist, may well account for the reactions often reported by the dentist rather than the small amounts of the local anesthetic agent which he uses.

The local anesthetic reactions which are due to the characteristic pharmacological effects of these drugs may be due to several aspects of the drug administration. One type of reaction would occur because of a patient who develops systemic manifestations with a much smaller dosage than is required for the normal patient. This patient might be described as hyperreactive in that the characteristic toxic symptoms appear with much less drug than the normal therapeutic dose. Patients vary in their response to a given dose of drug according to a normal distribution curve and one would expect an occasional patient who is hyperreactive as well as an occasional resistant patient.

Still another cause of the pharmacological reaction might be a very rapid rate of absorption. In this circumstance the dosage administered might be normal, however, the patient would develop toxic manifestations because the drug would be absorbed much more rapidly and a high blood level would result in toxic symptoms. This could happen if an intended subcutaneous or intramuscular injection was inadvertently injected intravenously. Very rapid absorption from the alveolar surfaces of the lungs, such as may occur with the topical administration of local anesthetics for bronchoscopy, is another in-

stance in which the absorption may be more rapid than would normally be expected.<sup>1, 6</sup>

The third circumstance resulting in toxic reactions would be due to an overdosage of the drug. Very frequently there is a failure to note the amount of local anesthetic which has been administered and due to difficulty in obtaining satisfactory anesthesia a continued application of the drug is made resulting in overdosage. Still another not uncommon situation is the employment of ordinary quantities of drug in patients of small size or in very poor physical condition. The doses of local anesthetics which will be tolerated are markedly reduced when the agents are used in small children. A fairly good method is to make the judgement in proportion to the weight of the child. Again, in the case of the elderly patient who is wasted and frail, the total dose of these agents must be definitely restricted if overdose is to be avoided.

#### Systemic Effects of Local Anesthetics

In order to understand and properly manage toxic manifestations produced by the recognized pharmacological actions of this group of agents it is necessary to examine closely the effect of these drugs on the respiratory and circulatory systems. Much point has been made concerning the different types of reactions to this group of agents.<sup>5</sup> Particularly it has been stated that there is a rapid collapse type and a slow convulsive pattern. It is important to recognize that the toxic manifestations are related to the rate at which the drug is absorbed and to a lesser extent to the type of local anesthetic agent that is actually used. When very rapid absorption of local anesthetics occurs, respiration and circulation will fail almost simultaneously and the pattern of acute cardiovascular collapse results.<sup>8</sup> If one slows the rate of drug administration one can demonstrate a typical convulsant pattern with circulation failing some time after respiration has ceased. It is important to emphasize, however, that in the case of patients with

very severe cardiovascular disease it is possible that circulatory depression may occur with levels which do not produce marked effects on the central nervous system.

An analysis of the effects of this group of drugs on the central nervous system was made with the use of an experimental animal preparation.<sup>3</sup> If cocaine were injected into the cerebral circulation of rabbits so that the drug was delivered only into the area of the mid-brain and above, a typical convulsive pattern was produced. If on the other hand the drugs were injected into a vertebral artery and prevented from entering any portions of the brain except the medulla and lower pons, the effects demonstrated were depressant, very similar to that seen with thiopental. There was a sudden cessation of respiration and a marked depression of the vasomotor center. It is important to emphasize that the overall effect produced by systemic absorption of the local anesthetic is a summation of the stimulatory pattern in the higher centers and a depression of the lower centers of the brain. Too frequently we have fixed our attention upon the convulsions which occur when the most serious threat to the patient's life is the depression of the vital centers of the brain.

If one examines the effects of local anesthetic agents upon the heart a predominantly depressant effect is found. It is generally recognized that these agents have quinidine-like actions. The development of procaine-amide (Pronestyl®) resulted from a search for a procaine-like compound which would not be destroyed so readily. With the administration of very large doses of procaine one can produce a complete depression of the circulatory system with a marked fall in blood pressure and a nearly complete suppression of the cardiac activity. The depression of the cardiovascular system generally requires doses greater than that required to produce convulsions. In the case of the poor risk patient the cardiac depressant effect may be significant and for that reason the selection of local anesthesia may be a poor choice if it involves a considerable quantity of the



local anesthetic, for example, 50 cc of one per cent procaine.

Prevention and management of toxic reactions require an understanding of the dose response range of these agents. One frequently sees wide extremes in attitudes toward the amount of drug which will be tolerated without producing toxic manifestations. On the one hand, liberal quantities, 100 cc of one per cent lidocaine, will be injected subcutaneously without a record of the amount and on the other hand, a tremendous concern will be exhibited for a very small quantity, 2-5 ml., of this agent which might possibly be injected intravenously. In a recent case for which I was consulted, a patient developed convulsions during a lumbar laminectomy under local anesthesia. The doctors responsible for this case seemed to be surprised that these events had transpired and yet the total dose of lidocaine which had been used in this instance was 1500 mg. If one uses doses of this level injected within relatively short periods of time one may expect a reasonable number of patients to show toxic manifestations. In contrast it is highly unlikely that serious effects could result from the use of a small amount of local anesthetic, procaine 60 mg., even though it may have been administered intravenously.

In a comparative study of the circulatory effects of lidocaine and procaine, doses up to 1 mg./lb. of lidocaine (160 mg. in 160 lb. patient) were administered intravenously in 60 seconds with no effect other than an elevation in blood pressure.<sup>4</sup> For drugs such as procaine and lidocaine, all except the sickest patients will tolerate doses of this size without serious toxic reactions. When the dose level begins to exceed 200 or 250 mg. administered intravenously in one to two minutes, the likelihood of toxic manifestations, convulsive phenomena, increase greatly. It is important to emphasize that toxic reactions are very unlikely with small doses of local anesthetics, i.e., doses equivalent to 100 mg. of procaine or less. However, if one does not carefully note the amount of drug injected it

is very easy to administer these drugs in doses equivalent to or exceeding 500 mg. of procaine which can produce toxic symptoms.

### Treatment of Reactions

The prevention of toxic reaction to local anesthetics must always include a discussion of the value of barbiturates in the prevention of these reactions. Early animal experiments demonstrated that large doses of barbiturates, in a basal anesthetic range, would prevent the convulsions of cocaine and would modestly increase the minimal lethal dose. The usefulness of barbiturates in man is more difficult to document. It is certainly true that one may control convulsions with the use of barbiturates but it is not so certain that one may actually reduce the hazardous effects of local anesthetics when absorbed systemically. As one can see in Table II the local anesthetics are predominantly depressant to the vital centers of the medulla and also the heart. Furthermore, if one adds the effects of barbiturates there is added depression in both of these areas. It seems unlikely that barbiturates serve any function other than the control of convulsions, and the additive depressant effect on both the medullary center and the heart must be well appreciated before barbiturates are administered. There

**Comparative Actions  
Local Anesthetics—Barbiturates**

	Local Anesthetics	Barbiturates
Brain		
Cortical Centers	Stimulate	Depress
Medullary Centers	Depress	Depress
Heart	Depress	Depress

is no evidence that sedative doses of barbiturates will prevent the convulsions of local anesthetics. Since reactions to local anesthetics may be psychogenic in nature rather than pharmacological, barbiturate premedi-



cation, like that with other agents, would be advantageous.

The management of the toxic reaction will never be satisfactory unless there is a well developed plan prior to the occurrence of this clinical accident. Since the primary problem is one of depression of both medullary and cardiovascular areas, the first consideration should be the administration of oxygen. For this reason it is obvious that oxygen should be available if there is to be an extensive use of local anesthetic. With our increased knowledge and understanding of artificial respiration, one must remember that mouth-to-mouth respiration could be used where no other methods of artificial ventilation were available. Whereas oxygen is highly advantageous in these circumstances, adequate ventilation with room air would be satisfactory in preventing the addition of hypoxia to the toxic effects of the drug. Certainly the depressant effects of these drugs on the central nervous system can be managed with artificial respiration and, furthermore, the addition of hypoxia to cardiac depression produced by these agents can be eliminated.

The use of intravenous barbiturates to control the convulsions is a practical measure but the dose should be strictly limited to that amount required to control the convulsions. Most reports of tetracaine intoxication describe a loss of consciousness with a few muscular jerks. The use of a barbiturate may be particularly hazardous in these circumstances. A rapid injection of barbiturates without adequate ventilation is certainly to be condemned. Since the circulatory depression due to the barbiturate may add to that of the local anesthetic agent and the attendant hypoxia, a severe cardiovascular depression or arrest will result.

If circulation is severely depressed a vasopressor such as a metaraminol (Aramine®) or levarterenol (Levophed®) is indicated. If a complete failure occurs it may be necessary to do external cardiac massage until the depressant effect of the drugs has dissipated.

Ephinephrine or levarterenol are the most useful agents for the purpose of stimulating the cardiovascular system depressed by large doses of these agents.

### Summary

The most important consideration in regard to toxic reactions of these agents is prevention. The primary factor in prevention is the careful control of the dosage. Adequate management of a reaction requires a prior plan of action. The most serious toxic manifestation is the depression of the central nervous system primarily and the circulatory system secondarily. Administration of oxygen should be the first consideration of treatment and support of circulation second. The use of barbiturates in treatment is limited to the control of convulsions.

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# Today's Problems In Hepatitis

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From the beginning of time man has been in continuous conflict with infectious diseases of one type or another. The great scourges of history have been largely conquered, although still of major concern in certain parts of the civilized world. Smallpox, plague, cholera, and, to a lesser extent, malaria, are kept in bounds. Influenza has not yet been controlled although weapons now available should prevent another epidemic like that of 1918. The acute communicable diseases, such as typhoid, diphtheria, scarlet fever, whooping cough, tetanus, and the venereal diseases are being reduced to low levels of incidence. All of this is real progress but another infectious disease is now rearing its head and becoming a serious problem. I refer to infectious hepatitis.

Hepatitis, or catarrhal jaundice, is not a new entity but its importance is being emphasized today. As with other infections, varieties of epidemics were described and the relationship of one to another were frequently not clear. Two distinct forms did emerge however—one with serious symptoms and a high mortality, and the other usually in epidemic form with low mortality. Excluding those cases associated with yellow fever, re-

lapsing fever, and leptospirosis, there still remained an entity which needed to be identified. The tremendous military importance of the disease led to human volunteer studies made during World War II, and out of these there came the conclusion that the diseases known as epidemic jaundice, catarrhal jaundice, post-vaccine jaundice, serum jaundice, and post-arsphenamine jaundice were part of an infectious process, but with at least two viruses. Since not all cases exhibited jaundice the term "Hepatitis" has replaced the various forms of jaundice previously named. This, in turn, has been divided into "Infectious Hepatitis" and "Serum Hepatitis," depending on the clinical and epidemiological findings. Probably a better differentiation would be the classification quoted by Eichenwald and Mosley<sup>1</sup> as virus "A" and virus "B".

Under this virus "A" is the causative agent responsible for the disease known as infectious or epidemic hepatitis, and virus "B" as the agent responsible for homologous serum hepatitis, transfusion, post-vaccinal jaundice and post-inoculation jaundice. While both infections have many points in common, the epidemiological differences are striking, one with an incubation period of 10-50 days and spread through both oral and parenteral means, and the other with an incubation period of 60-160 days and spread by parenteral means only.

I do not wish to discuss the clinical differentiation of these two types, although the virus "B" infection is usually a much more serious disease, and with a much higher mortality. This higher mortality may be associ-

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## TODAY'S PROBLEMS IN HEPATITIS

ated with the higher age group of Type "B" infections. I would recall to your attention the number of fatalities attributed to this disease from improper inoculations in one area of the country this past year.

Attempts to isolate the virus or viruses of hepatitis had not been successful until the report of Rightsel<sup>2</sup> and his associates, and the clinical trials of Boggs<sup>3</sup> and his group with the isolates obtained. This promises much in the future, both from the point of view of diagnosis and the preparation of antigens and vaccines. Much laboratory work remains to be done, however, before firm answers are available.

Infectious hepatitis was not made a reportable disease until some time after World War II, so nation-wise the incidence has only been tabulated for a relatively short period of time. Chart I shows the reported incidence for the country as a whole for the period 1957 to

1960, and Chart II, the 1961 experience. Graph One covers the last 10 years. It is apparent that we are in the midst of a period of pronounced high incidence. It is too early to tell whether or not 1961 represents the peak of the curve or not.

Graph Two gives the picture in so far as Alabama is concerned. We had a high occurrence before the country as a whole reached its peak of 1954, and up to the present there is no sign of a decreasing incidence in this area. These cases are not differentiated as to which are the so-called virus "A", and which are virus "B", although most are undoubtedly virus "A".

As previously stated the epidemiology of the two varieties is distinctly different, although both may be spread by parenteral means. The role of the multiple-dose syringe and of the improperly sterilized instruments has been documented on numerous occasions,

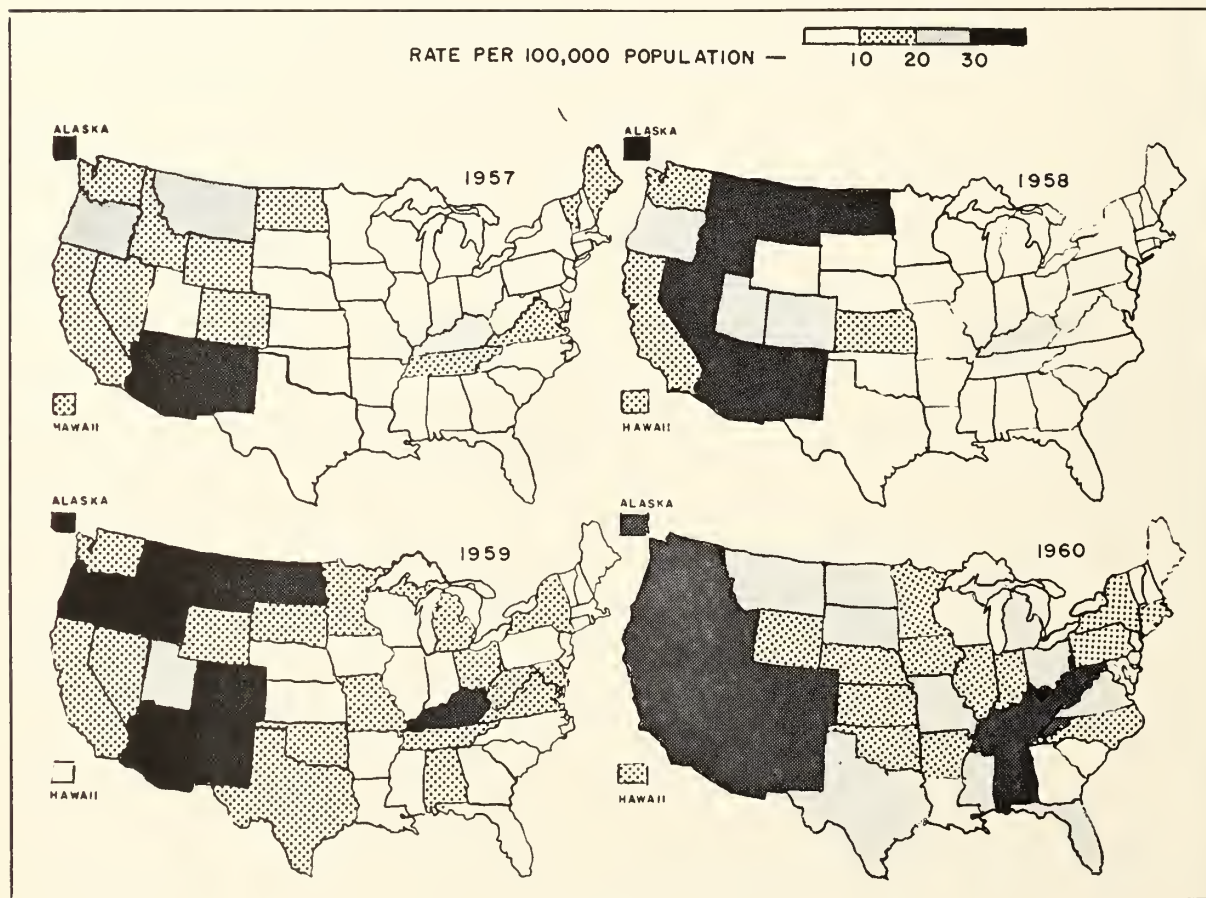


CHART I

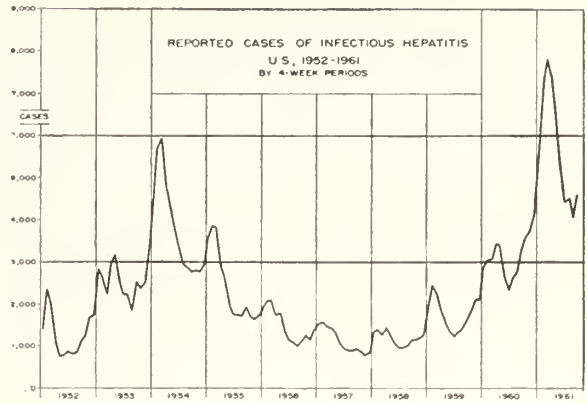


as has been the transfer by transfusions. Most of them are the virus "B" variety.

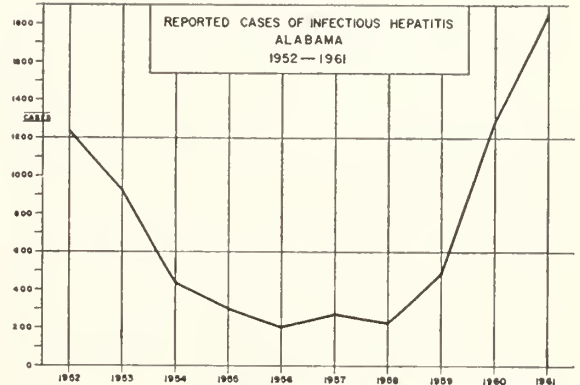
In Hepatitis "A" the transfer is usually from person to person, and it is this type we see in epidemics that may originate in schools and spread not only throughout the school but to the community as well. The prolonged incubation period frequently leads to epidemics extending over a period of months before all the susceptibles have developed either clinical or sub-clinical infections.

A new source of infection was found last year with the incrimination of sea food as a means of spread. Clams in the Eastern United States and oysters in the Gulf area were both shown to be involved in outbreaks. Since Alabama was included in the oyster infected area I would like to describe the happenings in a little detail.

It was in February that a naval physician stationed in Pascagoula reported that the civilian population was experiencing hepatitis and he was concerned lest it involve Navy



GRAPH I



GRAPH II

### HEPATITIS MORBIDITY BY STATE Rate per 100,000 Population

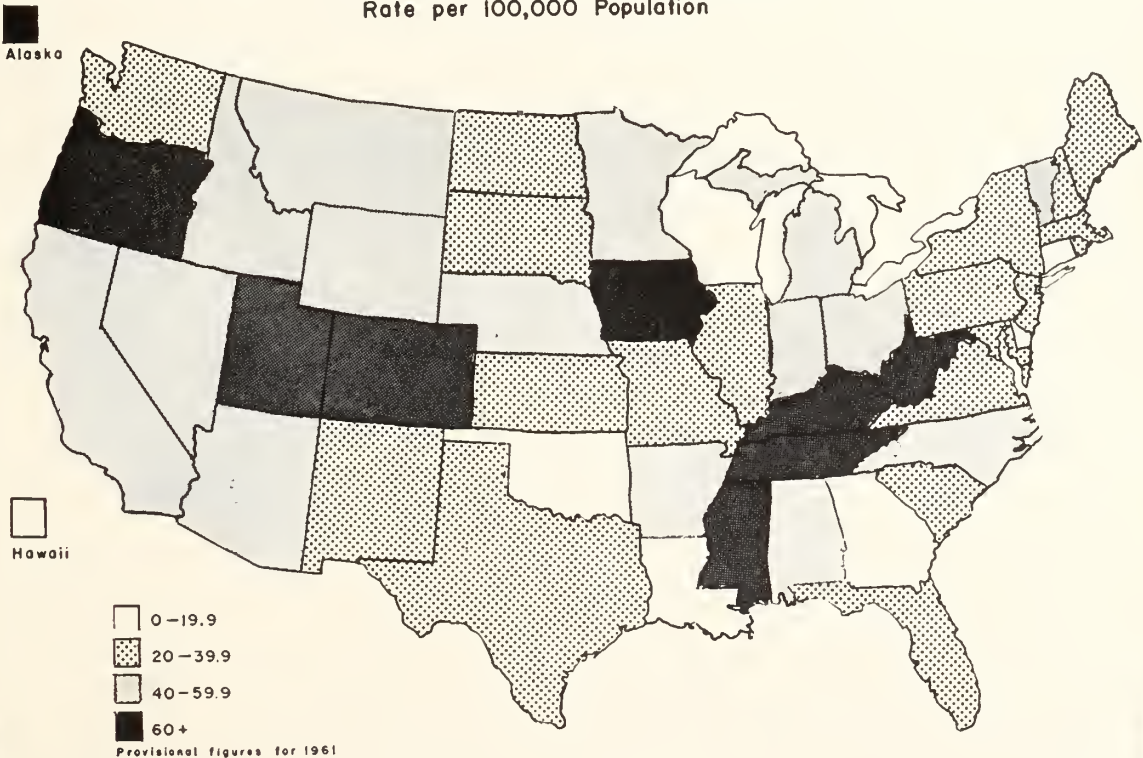


CHART II

personnel. This information reached the Communicable Disease Center of the United States Public Health Service, and led to the assignment of an epidemiologist and an expert in food and shellfish sanitation to the area. A report from C. D. C., prepared by James O. Mason, M. D., and Wilbert N. McLean, B. S., M. P. H.,<sup>4</sup> gives the high lights of the findings.

Oysters were suspected as a source when case after case gave a history of consuming raw oysters and the age distribution showed the cases to be primarily adult and not associated with other factors in common. Not all oysters were suspect and it became apparent that only those taken from certain waters were involved. Search elicited the information that the increase in population had overtaxed the sewage treatment facilities of the city and that raw sewage was being discharged into the river in large amounts. All

oysters involved came from the river or from the river mouth—some were sold commercially—some were harvested by individual users.

The next question was how widespread had the oysters been distributed and where might cases of hepatitis be expected. Mobile was the logical area that might have been involved, so a particular study was made there. Between January 1 and March 25 there were 53 recognized active cases of infectious hepatitis in Mobile County. Ninety per cent of these were 20 years of age or over and nearly all had eaten raw oysters 10-50 days before onset of symptoms. Nearly all belonged to the upper or middle socio-economic class and included many professional people. No Alabama oysters were incriminated but a history of eating oysters from Pascagoula was obtained from many.

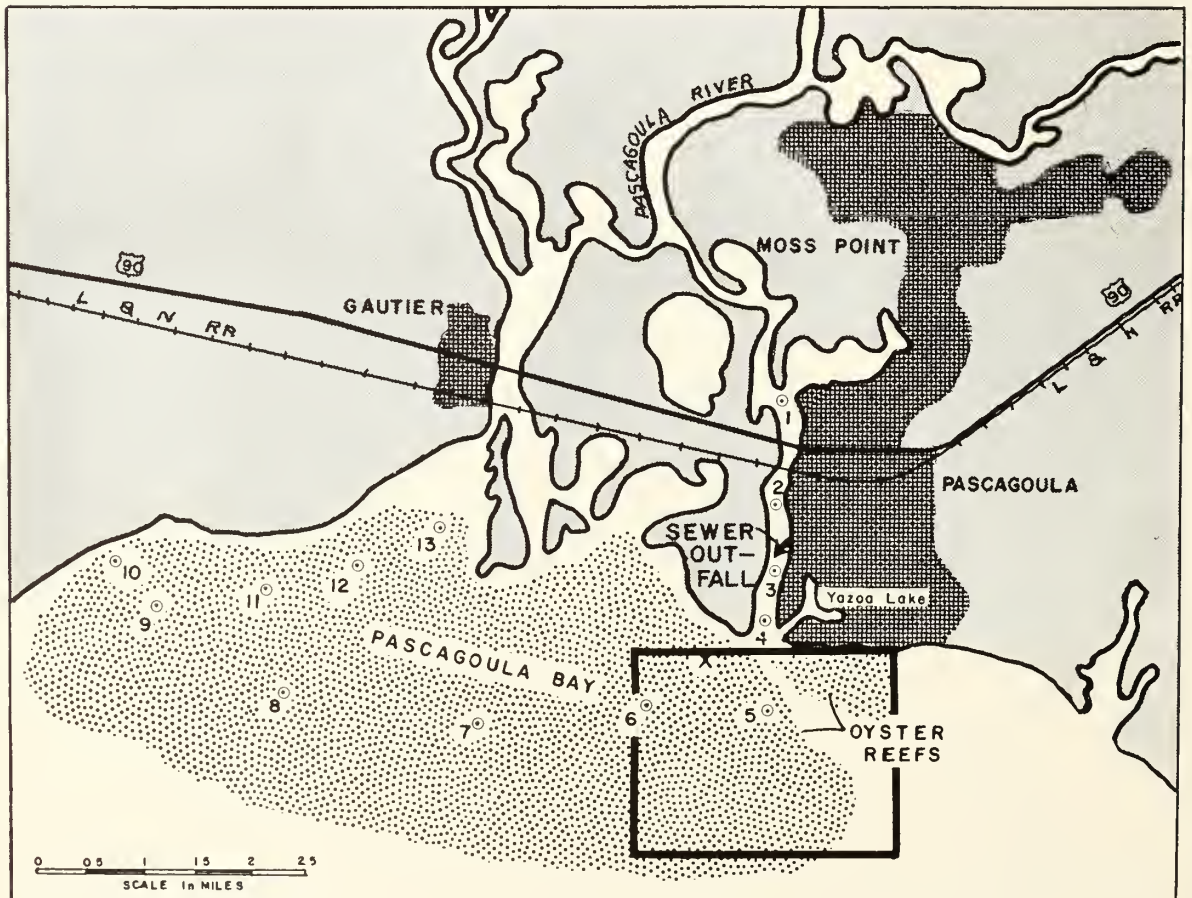


CHART III



Another small epidemic occurred in Troy, Alabama, where Pascagoula oysters were shipped. Eight cases of hepatitis gave a direct history of eating raw oysters from the Mississippi shippers.

Four additional cases from outside the State were recognized among visitors to the Gulf Coast during the period of infectivity. Undoubtedly other cases occurred but were not associated with this source by their physicians.

Can infectious hepatitis be prevented? The answer would be yes if the possibility of its occurrence were considered. Isolation of a case for several days is advisable with proper attention to the disposal of wastes. Any syringes, instruments, etc. should be properly sterilized and it may be that the family contacts should be given gamma globulin in a dosage of .01 ml. per pound of body weight. This is of value only in virus "A"—not virus "B". The supplies of gamma globulin are usually limited, hence it cannot be made available to all possible contacts. Pregnant women should have first call and the existence of other conditions in a family may determine who else is inoculated. To be of value it must be given prior to the onset of any symptoms.

For community protection proper supervision of water supplies, sewage disposal, food handling and in the case of schools, adequate hand-washing facilities will help break the chain. It is noteworthy that few schools have hot water available for hand-washing, and it is equally rare to find soap and towels available. Under these conditions few children will adequately cleanse their hands after toilet.

The diagnosis of hepatitis in the presence of jaundice and with an epidemic in progress may be easy, but solitary cases must be differentiated from other causes of liver damage or biliary obstruction. Hepatitis without jaundice will rarely be recognized except in the presence of an epidemic when the clinical picture is compatible with the other cases and there is an enlarged and tender liver. Laboratory tests of various kinds have been made

and they offer some help in differentiating the disease. To mention a few of these, there are (1) serum bilirubin determinations, (2) icteric index, (3) cephalin flocculation, (4) thymol turbidity, (5) other turbidity tests, (6) bromsulphalein excretion, (7) serum transaminase, (8) urine bilirubin, and (9) urine urobilinogen. Of these, probably the most useful are the urine tests and the transaminase tests which become positive prior to clinical symptoms.

Treatment of the disease is essentially symptomatic and non-specific. Bed rest and adequate diet are the chief measures. Appetite is fickle and the patient may be ready for a steak at breakfast but have no appetite later in the day. Drugs are largely contra-indicated since many of them are excreted by the liver and that organ is already damaged. Gamma Globulin is of no value in treatment even if given in large doses.

This is a joint meeting of general practitioners and of surgeons. Infectious hepatitis is a disease that should claim the careful scrutiny of both groups. Virus "A" and virus "B" demand your best, both from the treatment and prevention sides. The disease will probably decrease in the near future if it follows former patterns but this decrease can be accentuated and speeded up by proper medical attention.

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# Percutaneous Arterial and Left Ventricular Catheterization—Applications to Contrast Cardiovascular Visualization

CHARLES T. DOTTER, M. D.

Portland, Oregon

It has been said that one good picture is worth a thousand words and on this assumption, the space of an average short scientific report will be devoted to six typical examples of the results of arterial and left ventricular contrast visualization utilizing percutaneous arterial catheterization.<sup>1-3</sup>

Since medicine has not yet learned how to replace or transplant more than small fragments of man's cardiovascular system, modern therapy still amounts to the repair and maintenance of original equipment. One consequence is the increasing complexity which has marked the mutually interdependent progress of diagnosis and therapy in heart

disease. Barring an unlikely (if less protracted) nuclear alternative, about half the readers of this journal will die of the consequences of arteriosclerosis. From general practitioner to geriatrician, all physicians must deal with cardiovascular disease in one form or another. Thus, it is fortunate that while specialized skill is essential to the safe conduct and maximum productivity of angiographic examinations, the results need hold few mysteries for any physician. Regarding the selected examples which follow: though the captions are necessarily interpretive, the pictures are unretouched—to the extent they faithfully represent the original films they may be considered original scientific data.

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Figure 1. **Arteriosclerotic Occlusion of Right Renal Artery and Aortic Bifurcation.** Percutaneous transfemoral abdominal aortography in a 56 year old physician's wife (UOMS #29-55-33) with hypertension. Right renal artery is completely occluded (arrow). Marked arteriosclerosis causes apparent obstruction of right common iliac artery and poor filling of left. Collateral arteries (better shown on later films of series) bridge diseased iliac arteries, explaining patient's denial of claudication if not the ease of catheterization! Despite armchair allegations to the contrary, even in the presence of iliac narrowing, the transfemoral route is probably safer and certainly more informative than translumbar puncture.





Figure 2. **Carcinoma of Uterine Cervix.** Percutaneous transfemoral pelvic arteriography which required fifteen minutes to perform in this 47 year old female (UOMS 11-73-94). Blood pressure cuffs were inflated around the legs during the eight second filming period which began with the injection of 35 cc. Ditiokon at the aortic bifurcation. A. 2.0 second film shows a suggestion of abnormality involving the left lower uterine arteries. B. At 5.0 seconds the vessels still are asymmetrical greater flow evidently going to the left, subsequently shown at surgery to be the site of an invasive carcinoma of the cervix. Whether this will prove to be a useful sign remains to be seen. In other cases, gross dislocation of major pelvic arteries indicated otherwise unrecognized spread to lateral pelvis.



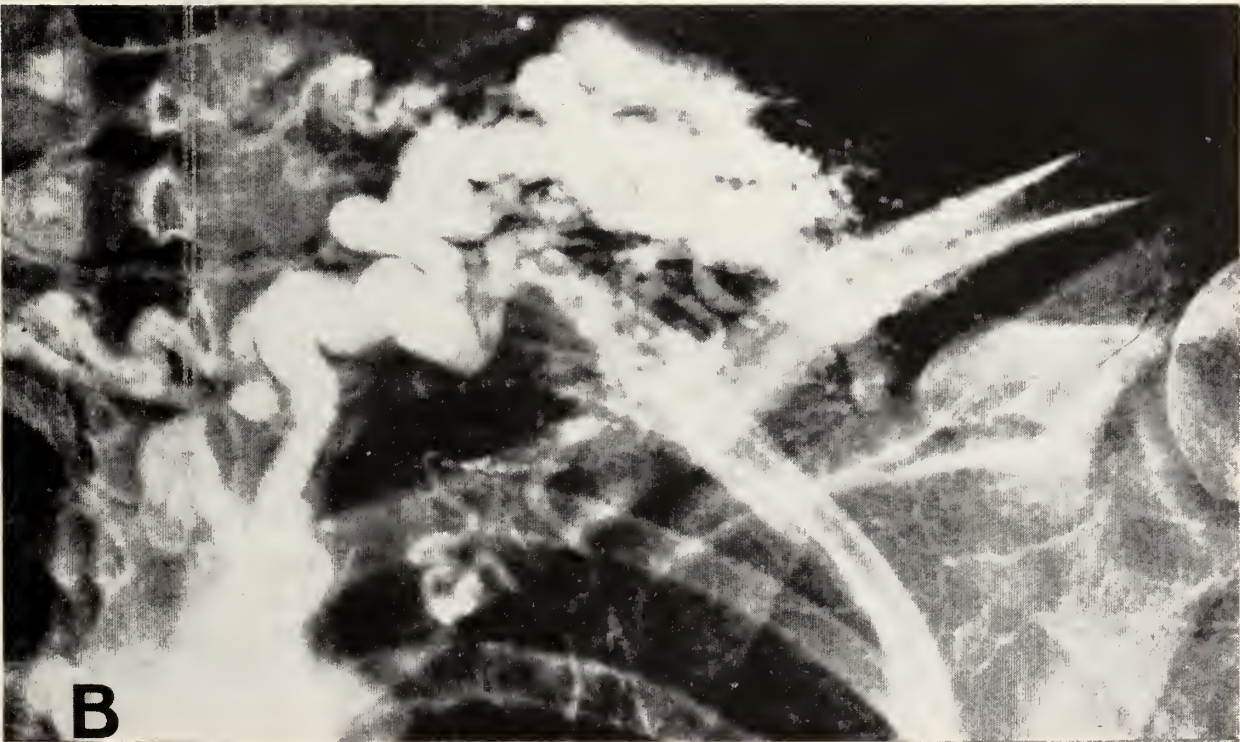
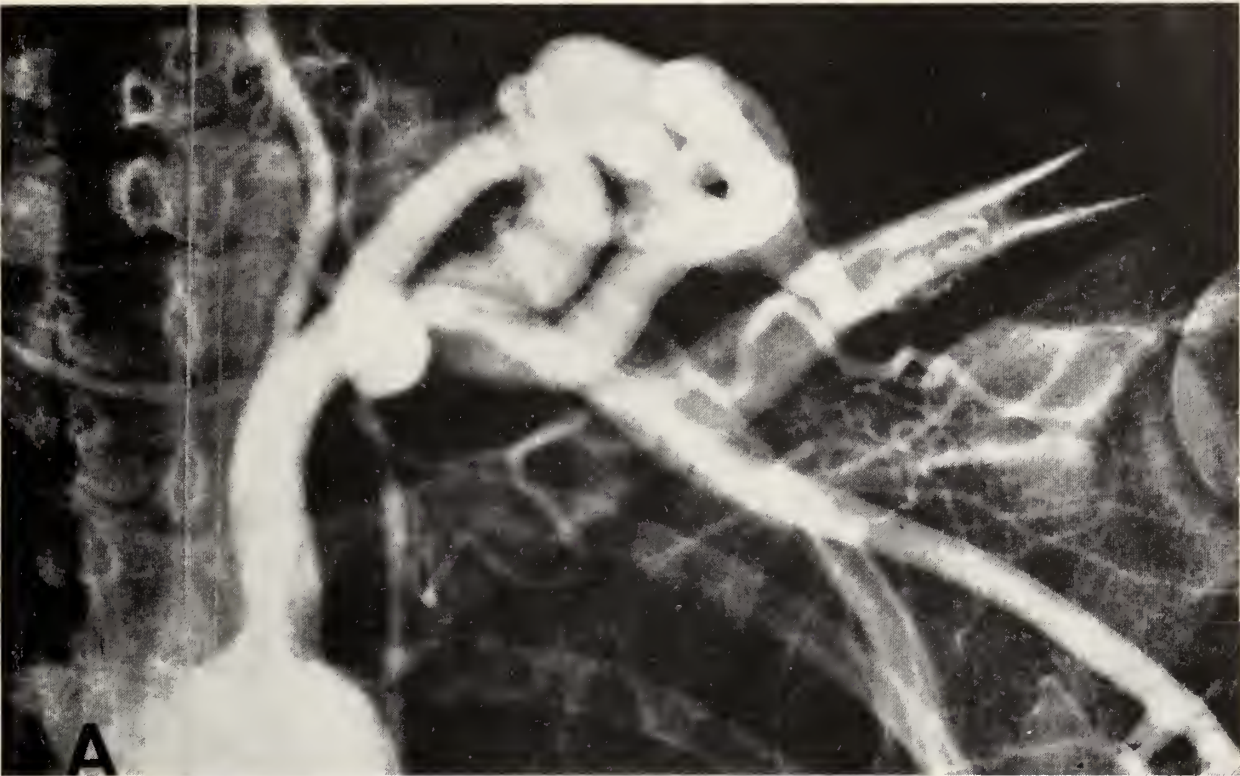


Figure 3. **Arteriovenous Fistula, Left Supraclavicular Region.** Selective left subclavian arteriogram following percutaneous femoral catheterization in a 34 year old woman (UOMS #27-29-54). A and B 1.5 and 4.0 seconds after beginning of 28 cc. injection, part of which fills aortic arch by reflux. Massive dilated, tortuous arterial branches of the transverse cervical artery supply the fistula which drains through the azygos venous system. Such studies as this are easier to perform, less traumatic and more informative than post mortem examination. They are also more useful.



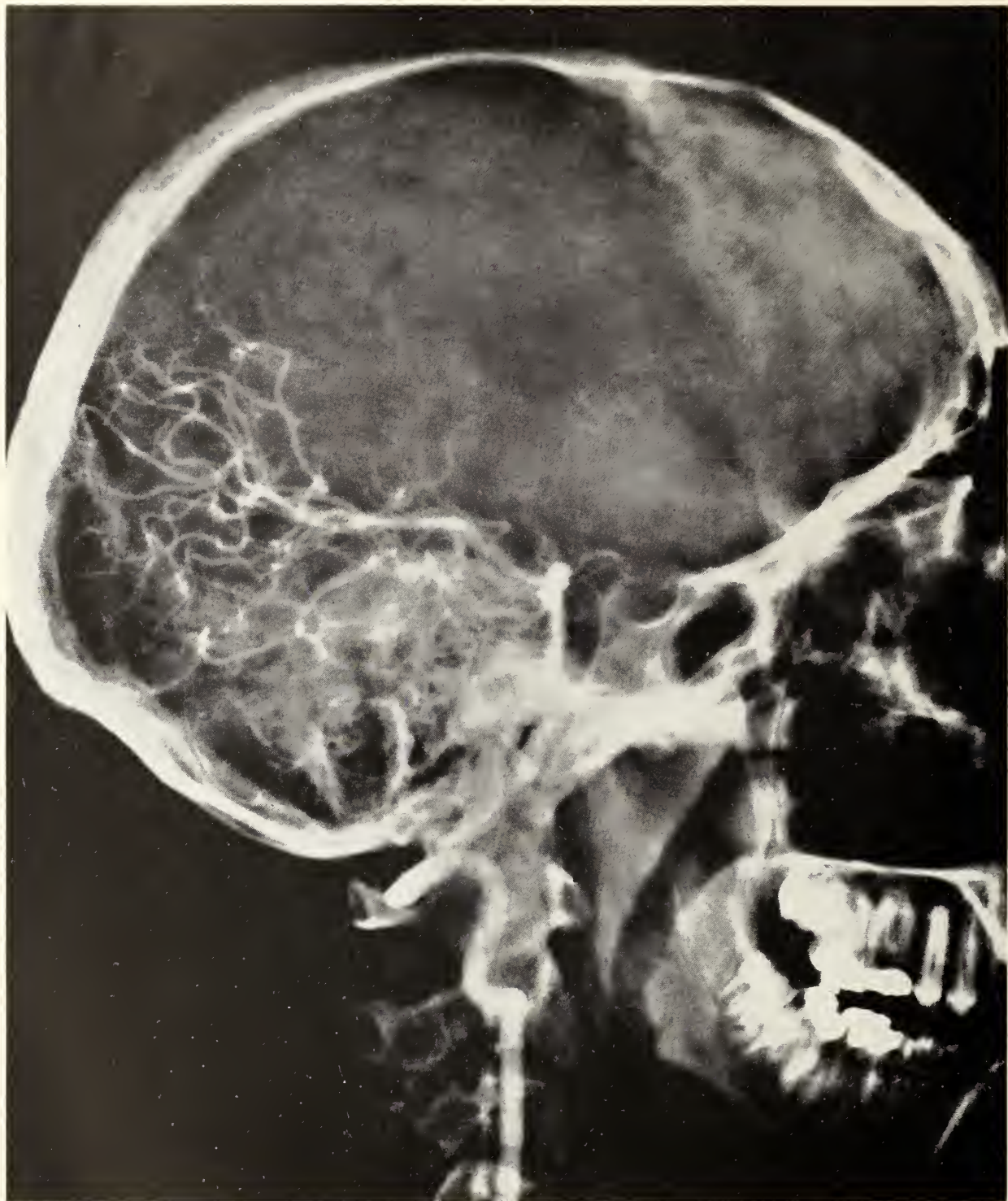


Figure 4. **Normal Vertebral Angiogram.** Percutaneous transfemoral catheterization as done in this 17 year old boy (UOMS 229-06-86) is the method of choice for vertebral angiography. Done by residents it is more certain of success than needle puncture by experts. With the transfemoral approach, catheter entry into the left subclavian artery is nearly automatic for evident anatomic reasons. Of particular importance when frontal views are made, the rapid injection of contrast agent at a point  $1\frac{1}{2}$  or 2 inches above the origin of the left vertebral artery generally results in filling of the opposite vertebral artery as well as the posterior cerebral vessels. The contrast agent used in this study was Conray 60%.



Figure 5. **Subvalvular Aortic Stenosis.** Left ventriculography following percutaneous transfemoral catheterization in a 9 year old girl (UOMS 22-04-31). Urokon sodium 70% was used and outlines the left ventricle, coronary arteries, thoracic aorta and its brachiocephalic branches. Exposure at beginning of ventricular diastole shows a persistent indentation (arrow) below the normal aortic valve. This was seen on all views in multiple projections and was responsible for a 100 mm. Hg. pressure gradient. Surgery was successfully accomplished. Not all such studies are as beautiful as this one.



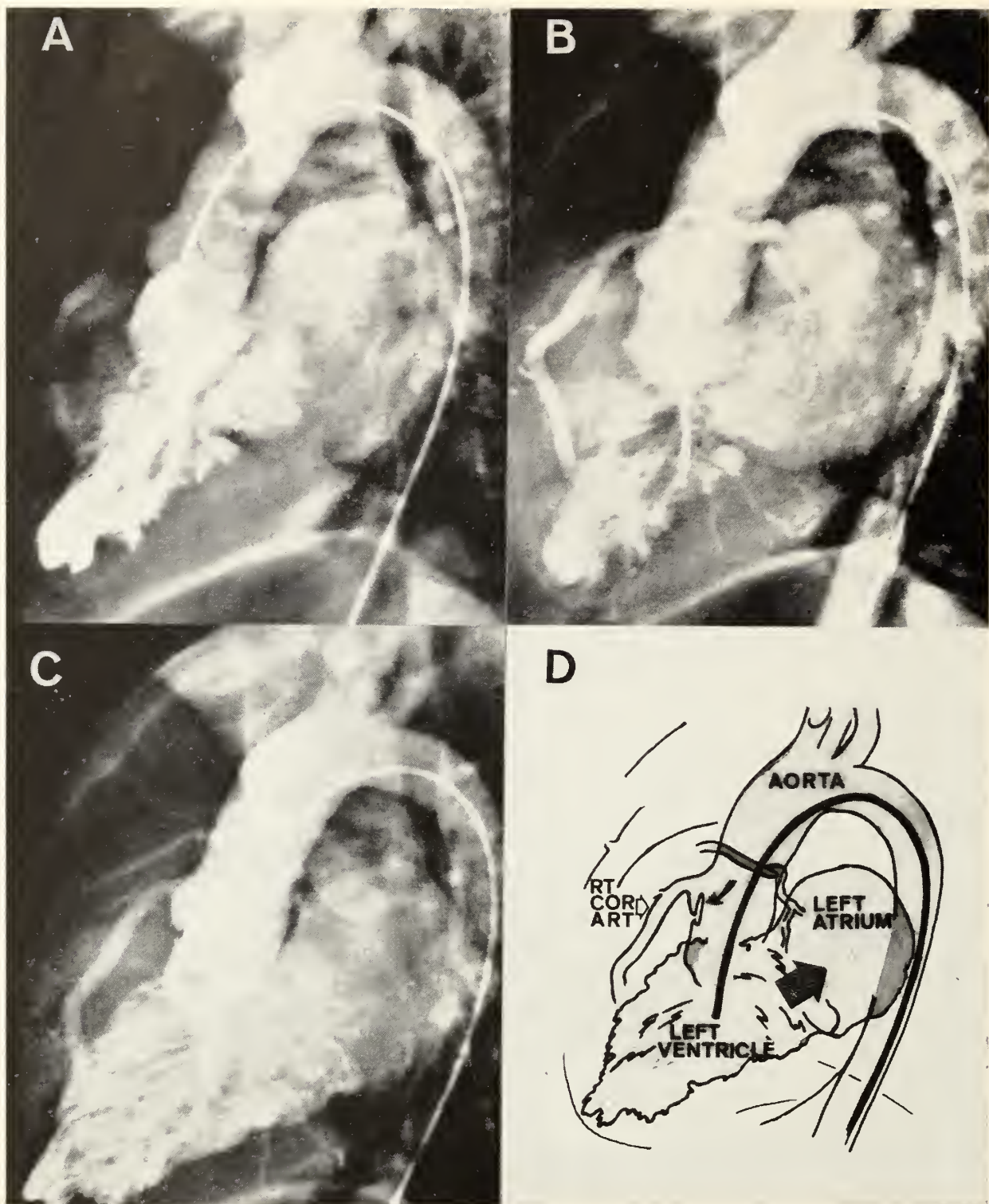


Figure 6. **Mitral Insufficiency.** Percutaneous transfemoral left ventriculography in 6 year old boy (UOMS #26-51-73) thought to have congenital mitral insufficiency. A-C serial views at half second intervals following injection of 20 cc. Urokon sodium 70%. D tracing of C. Regurgitation of contrast agent into left atrium through incompletely closed mitral cusps is well shown on A. A and C show the appearance of diastolic closure and systolic opening (small arrow on D) of normal aortic valve cusps. Third cusp invisible because of projection. This is the most accurate means available for the diagnosis of mitral insufficiency, regardless of cause or degree.

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**3. APPLICATIONS:**

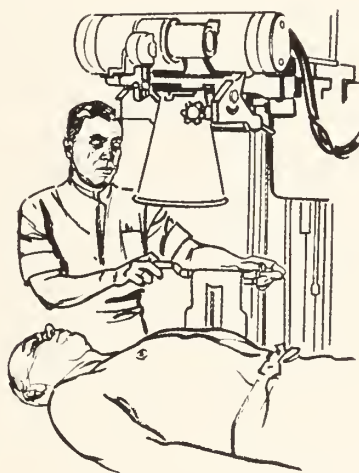
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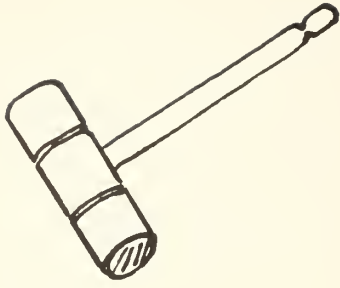
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# President's Page



## CHANGING IDEAS IN HEALTH INSURANCE

The necessity of writing health insurance for our senior citizens has been a major factor in the realization that the principles of health care insurance should be carefully re-examined.

It would probably be wise to briefly review the most important types of health insurance available at this time. Blue Shield, with its 76 different plans, may be classified according to the type of benefit provided. These benefits are:

The cash indemnity type provides benefits in terms of money set forth in a predetermined "schedule of indemnities" which are payable directly to the physician.

The service benefit plans are those in which the subscribers are offered surgical and/or medical benefits. These benefits must be accepted by the physician as full payment for his services.

The combination type plan allows the insured to utilize the service plan if his income is within limits, usually varying in different plans from \$3,000 to \$9,000.

Under the provisions of the service type plan the physician agrees to accept this benefit as full payment. The indemnity portion, which is a part of the combination plan, offers a cash indemnity to the subscriber if his income is above stated limits; and the physician may then make additional charges if the cash indemnity does not meet the standard fee in that area.

In each of these plans the traditional concept of free choice of physician is preserved.



*W. Sam Evans, M.D.*

The continuing increase in enrollment in health insurance plans from 19 million to 50 million in ten years is evidence of public acceptance of the idea of prepayment and budget of some of the costs of illness, injury, and disability.

The majority of Blue Shield Plans utilize a service plan as part of a combination service and indemnity plan. Many people believe that it is becoming increasingly obvious that the service feature has a "built-in source of friction" between the practicing profession and the operators of the program. The antagonism may be that physicians are, in essence, underwriting the service plan by agreeing to a known fee for an unknown



amount of medical service. Many feel that this "service mechanism" is more realistically a protection against government's intervention than the method of postpayment (\$250-\$500) and catastrophic coverage or indemnity coverage which we see widely used by other segments of our population.

Have you integrated your thinking on these matters?

Dr. F. J. L. Blasingame has asked the questions, "Is comprehensive coverage a practical, desirable objective? Is there a danger that the comprehensive approach with its built-in weaknesses and high cost will invite financing through a compulsory form of taxation and a compulsory management of a program by the federal government?"

### **The Purpose of Health Insurance**

As in every field of insurance, the purpose of health insurance is to protect the insured against some unforeseeable event which may cause disastrous financial loss. To insure the first dollar cost is unrealistic and imprudent because the cost of handling small charges would be unreasonably high and would undoubtedly create a built-in tendency for abuse through over utilization.

The costs of the first day of illness, preventive care, and minor illnesses should be budgeted like rent, clothes, automobiles, and food. These are much cheaper on a "pay-as-you-go basis."

### **Deductible and Co-Insurance Features**

Major medical expense plans conform more closely to the traditional principles of insurance than did earlier types of health insurance. It uses the deductible and co-insurance approach, whereby the insured is responsible for the first \$100 (more or less) and pays about 25 per cent of the remainder of the cost of the illness. This type of insurance provides sums up to \$10,000 to meet the needs against catastrophic illness.

These provisions attempt, by economic means, to control over utilization and other

forms of abuse which are important contributing factors in increasing the costs of health and hospital insurance.

On November 1, 1962, Blue Cross-Blue Shield of Alabama offered a Senior Citizens Program to all persons over 65 years of age. The contract has a \$50 deductible feature with a \$5 per day (starting on the third day) co-insurance clause. In addition, surgical and medical schedules are included at a rate of \$9.50 per month per person.

In the last two decades voluntary health insurance has radically changed the economics of medical care. Further expansion of health insurance is expected and the exact pattern which it follows will depend on many variable factors.

The consumers of health care through their collective organizations such as labor unions, industrial complexes, and federal and state employees have an important voice in the selection of health insurance plans.

Insurance companies and the large industrial concerns are elated at the passage of a bill introduced by Rep. Thomas B. Curtis (R., Mo.), which provides a tax incentive for employers to include health care in employee retirement programs.

Some legislators are gathering support for a bill to allow tax deductions for hospital and health care premiums. This would certainly be a tremendous boost for the voluntary health insurance movement.

### **The Physician's Obligation**

You, an American physician, have a golden opportunity to help voluntary health insurance solve the major problems incurred in financing medical care. You have a distinct obligation to your patients, to your profession, and to your government to furnish incentive, stability, honesty, and integrity in a determined effort to continue practicing medicine under the free enterprise system.

M. VAUN ADAMS, M. D.



*CHRISTMAS is with us again, as it has been year after year for centuries, bearing witness that there is an endless continuity and a reassuring certainty still triumphant over all the uncertainties of life. We in the Medical Association of the State of Alabama wish you a full measure of peace, good will, and hope betokened by the Season.*

*Let us be thankful that our world has survived crisis after crisis. The end of these crises is not yet. But whatever the future betides, America has an impregnable bulwark of resources to provide against the uncertainties that may befall us. Members of the Medical Association of the State of Alabama, for instance, lend their own distinctive aura of certainty to this Christmas season with a record of 102 years of devotion to the protection of health and life.*

*With the advent of another New Year for all of us, we wish you happiness and good fortune.*

*Sincerely,*

*Editorial Staff*



## ASSOCIATION FORUM

### Toxic Christmas Trimmings

*A not-so-cheery but nevertheless a  
rewarding holiday warning*

Amid gaiety and merriment the ghostly shadow of the pessimist always seems to turn up. A necessary evil: someone has to think of these things in order to establish warnings for the rest. Christmas is no exception. In the *New England Journal of Medicine*, R. J. Haggerty reviews some types of poisoning related to Christmas as reported to the National Clearinghouse for Poison Control Centers. Other incidents have appeared in the medical literature.

**Bubbling Lights.** The modern Christmas tree is much safer than the old candlelit tree; but the candle-shaped, bubbling lights which have been introduced in the last ten years attract and tempt curious children. If the child is not discouraged by an electric shock or cut while removing a "candle" from the

tree, he may be tempted to break the bulb and inhale or swallow the contents. Generally this liquid is methylene chloride, a chlorinated hydrocarbon of low toxicity.<sup>1</sup> Since there is about 4 ml. of fluid in each "candle," the symptoms may include a mild CNS depression which may be preceded or followed by CNS excitement. If large amounts are ingested there may be the danger, as with other more potent chlorinated hydrocarbons, of liver and kidney damage. In treating such an accident, gastric lavage and artificial respiration, if necessary, should be followed by systemic treatment of the CNS condition.

**Fire Salts.** This product, which is used to produce multi-colored flames on the yule log, can cause heavy metal poisoning if swal-



lowed. The colors result from burning the salts of copper, barium selenium, lead, thallium, arsenic, and antimony.<sup>1</sup> Gastric irritation usually is severe enough to produce vomiting. Subsequent treatment includes ingestion of such demulcents as milk, raw egg whites, flour, or starch. Provided that the parent wisely saved the original container, the attending physician or a Poison Control Center can prescribe a particular antidote where one exists.

**Snow Sprays.** These sprays permit activity to be confused with accomplishment at Christmas time; and, because little dexterity is required, children take a particular delight in using and in abusing them. Windows, mirrors, costumes, and little brother all look more seasonal trimmed in white! The snow is composed of an inert plastic material and a long-chain fatty acid, harmless once the propellant has evaporated.<sup>2</sup> The propellant may consist of more potent halogenated hydrocarbons—methylene chloride and freons.

**Icicles, Angel Hair.** Even the icicle decoration for the Christmas tree may be a menace. Fortunately the metal constituents (40 per cent tin and 60 per cent lead) are poorly absorbed in the gastrointestinal tract; so icicle mishaps occur from the stringy nature of the material; intestinal obstruction and choking may be encountered.<sup>1</sup> Another trimming, misty "angel hair" (spun glass), can produce some devilish irritations inside and out when children become enchanted with its cotton-candy appearance.

**Berries.** Bright berries always seem a temptation to children. It is interesting to know that the holly berry contains a toxic compound which causes severe vomiting, diarrhea, and CNS depression for which there is no specific antidote. The mistletoe berry also contains an unidentified toxic ingredient. One case of poisoning from drink-

ing tea brewed from this berry has been reported. In the unlikely event a child should swallow a large number of berries, this possibility should be kept in mind.<sup>2</sup>

**Moth Balls.** For the past two years "dancing moth balls" have been described in advertisements as a novel way of adding color and entertainment to the holidays.<sup>2</sup> The stunt consists of placing moth balls in a colored solution of vinegar and water and then adding baking soda which releases carbon dioxide at the surface, causing the moth balls to dance. The toxic properties of naphthalene and paradichlorobenzene are well known; consequently, this would seem a poor game for children.

**Model Trains.** In recent years toy manufacturers have put some realistic touches on model trains, much to the delight of father and son but not devoid of danger.<sup>2,3</sup> Cart-ridges developed to produce smoke contain meta-terphenyl or kerosene and cedar wood oil. The quantities are not great enough to have harmful effect by inhaling the smoke or ingesting small amounts, but matters should be so arranged that only a few cart-ridges are available at one time. Also, there is a cleaning fluid for train tracks which should be used under adult management because it contains deodorized kerosene.<sup>2</sup>

**Paints.** Homemade Christmas cards or trimmings usually involve painting surprises in a closed room with the possibility that toxic fumes may accumulate. Some poster paints have a toxic volatile base.<sup>1</sup> The nearness of the work further enhances exposure; headache, nausea, and vomiting may climax this spirited endeavor.

**Points of Prevention.** All these examples of Christmas hazards for children verify the truth behind the prevention adage: poisoning is easier to prevent than treat. Doctors,

especially pediatricians, have a most opportune power of prevention when they concentrate their efforts. In Fayetteville, North Carolina,<sup>5</sup> one doctor reported a number of eye injuries from Christmas toys. This prompted other doctors in the community to organize educational campaigns for civic groups, and the incidence of accidents was reduced by half.

Physicians can reduce the incidence of mortality and morbidity from home poisonings by providing the parents with a few basic facts so they can begin first-aid promptly; in some cases this can be life saving.

The first principle is dilution and prompt evacuation of the toxic material from the stomach, preferably by emesis.<sup>4</sup> Caustic alkaloids or kerosene are exceptions. Household materials such as table salt, powdered mustard, or soap dissolved in water usually will induce regurgitation. Time and patience often are lost trying to force these distasteful emetics down an already frightened child. A simpler way with youngsters is to dilute the poison with water alone and then force vomiting. Placing the child in a face-down position with his head low and tickling the back of his throat with a finger or spoon handle is usually sufficient to induce vomiting. Biting can be prevented by placing a wedge between the child's teeth. Afterward the child is kept quiet and warm until a doctor or the Poison Control Center is reached.

If no evidence of ingestion is present, but the room is heavy with fumes, quickly get the child into fresh air. Mouth to mouth rescue breathing may be necessary in severe inhalation poisoning.

**Poison Control Center.** These centers perform a valuable service to combat the environmental health hazard introduced by the

numerous industrial products available in the home. They have facilities for treatment and first-aid calls plus information on the nature and toxicity of commercial products.<sup>4, 6</sup> The serious efforts of these centers have provided the background for a national law passed recently giving the Food and Drug Administration the responsibility for a nation-wide program on labeling of hazardous household products. These centers have also initiated state legislation that requires warning and instructional labels on hazardous chemical substance.<sup>4</sup>

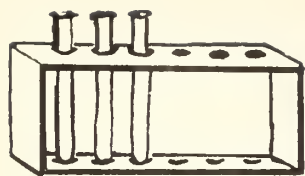
Alabama's poison control center is located in the Children's Hospital in Birmingham and is open 24 hours a day. Physicians wishing information regarding accidental poisoning may telephone FAirfax 2-8501 or ALpine 2-6901 any hour of the day or night. This poison control center is affiliated with the National Clearinghouse for Poison Control Centers in Washington, D. C.

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## PROTECTING THE CONSUMER FROM FRAUDULENT HEALTH PRODUCTS AND PRACTICES

by

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State Health Department

Human bodies, when functioning at an optimum level, are taken for granted. Some people imagine themselves as an indestructible organism with lasting vitality. Possible future aches and pains are obscured by the false assumption that "this cannot happen to me" which is communicated to others. Yet, it is inevitable that most individuals will have personal health problems.

When conditions develop which directly challenge one's existence, the usual course is to look for a "way out." This way out pattern may take many forms. A visit to a reputable physician, procurement of patent medicines, a conference with a "healer," or a chat with a friend are examples of patterns of behavior the American people utilize to relieve the anxieties they may be experiencing. In times of stress, some may disregard the reputable practitioner of medicine and resort to any cure that may be offered to him for the alleviation of his suffering.<sup>1</sup> The public seldom

stops to inquire about the motives of those who heal him or to determine the validity of the basis on which their claims may rest.<sup>2</sup> Not only are cultists sought, but individuals resort to patent medicines because magazines, newspapers, radio, and television suggest that all people have trouble with their stomachs, bowels, teeth, throats, heads, and looks. The market is flooded with a thousand and one foods, drinks, gargles, and pastes claiming to postpone the onset of disease, of social ostracism, of business failure, or to assist the individual to recover from ailments, physical or social, already contracted.<sup>3</sup>

### Early Efforts to Control Fraudulent Practices

The seeking of medical aid from anyone or anything is not new. "Patent medicine quackery was a significant part of our heritage from the British Isles."<sup>4</sup> Daniel Defoe wrote



in 1719 that "quacks contribute more toward keeping us poor than our national debts."<sup>5</sup> Beginning with the 18th Century America was literally infested with hundreds of travelling medicine showmen. Mass promotional techniques which reached audiences throughout the country in one big campaign were carefully planned. The patent medicine business pushed the use of form letters. This enabled the peddler to reach the entire population, both urban and rural. Most of these patent medicines, nostrums, and herb medicines were either non-effective or actually poisonous. Nothing was done to correct this situation until the early nineteen hundreds. "The nostrum makers could run as wildly as they wished; they could put any ingredient in their bottles, label the medicines falsely, and make totally unfounded claims in their advertising—all with no fear of interference by the government."<sup>6</sup> However, by 1905 pressure began to form against this uncontrolled phenomenon, both by the state legislatures and Congress. This was largely due to the activities of Collier's Weekly, the American Medical Association, and the United States Department of Agriculture, all of which were against the "great American fraud."

Despite the opposition of numerous newspapers and magazines, Congress passed the first Pure Food and Drug Law in 1906.<sup>7</sup> The law was weak for it only prohibited drug manufacturers from making false label statements, and required them to declare on the label the presence and amount of only eleven drugs. Among the eleven were alcohol, morphine, opium, cocaine, and heroin. Soon after the law was adopted the Sherey Amendment was added, which prohibited "false and fraudulent" statements on labels regarding curative effects.<sup>8</sup>

The first act for controlling drugs was a step in the right direction, but since it referred to only eleven drugs and did not require information about the manufacturer, the legislation left much to be desired. The Sherey Amendment in 1906 did little to give added protection to the American consumer. The government had to prove that a medicine

dealer was making false curative claims with the intent to defraud. This was virtually impossible.

By 1930, the situation had reached a crisis, unknown to the consumer. Reputable manufacturers until this time were putting on the market food stuffs, patent medicines, and prescription drugs that not only were substandard, but contained chemicals that could cause medical injury and death.<sup>9</sup> In 1933, the public began to exert pressure as a result of the book, *100,000,000 Guinea Pigs*, published that year. In this book names were mentioned and typical "standard" products that were either worthless or even dangerous to the public's health were described. The authors pointed out not only the inadequacies of the food and drug laws, but also the lack of power of the Federal Trade Commission to stop false advertising. "If a product is advertised as safe and is not safe, the Commission may consider this unfair to the makers of relatively safe products."<sup>10</sup>

It is evident that the Commission's power was limited. Also involved was the Post Office Department's unique way of taking action against fraud. A complaint needed to be received concerning a medicinal product sold through the mails before action could be taken against the manufacturer.<sup>11</sup> Thus, the early nineteen thirties flourished with substandard items sold to the consumer.

In 1933, Congress was asked to provide added protection to the consumer through national women's organizations, the American Medical Association, and officials of the Food and Drug Administration. This resulted in a proposed bill, termed the Tugwell Bill, which aimed to make substantial changes in the then existing food and drug laws. However, the bill was held up in committee for four years. Then a national incident took place which aroused the public to the unquestioned need for added legislation.

Late in 1937, a manufacturer produced a medicinal product of sulfanilamide with a

diethylene glycol base used in antifreeze for automobile radiators and in certain varnish and plastic compounds. Over one hundred people died and numerous illnesses resulted from this untested drug preparation. This led Congress to pass the Food, Drug, and Cosmetic Act of 1938. "This act extended federal regulatory power to cosmetics and quack medical devices, authorized factory inspections, gave the Food and Drug Administration greater injunctive powers, and, most important of all, required that a manufacturer before marketing a new drug, prove to the government that it was safe when taken as directed.<sup>12</sup>

Since 1938 there had not been a major protective law passed to further insure the public against deceptive practices in the medical field until the question of thalidomide caused great alarm. A drug bill has been signed by the President on October 10, 1962. The new law (Public Law 87-781) poses stricter controls over the production and sale of prescription drugs.<sup>13</sup>

In the past twenty years new fads and fallacies have greatly added to the burden of the Federal governmental agencies' responsibility for this citizen protection. These agencies agree that the best method is to emphasize consumer health education both at the state and local levels.

If this premise that consumer health education is needed, then attempts should be made to determine the role of state health departments in protecting the consumer from fraudulent health products and practices. Suggested specific objectives might include the following:

1. To determine the attention given to the health consumer by selected health departments.
2. To determine the kinds of activities being used by health departments in their educational program.

3. To learn what educational programs are used to inform the health consumer.
4. To learn what educational methods are utilized to achieve this goal.
5. To determine which unit within the health department has the major responsibility.
6. To determine the personnel and the in-service training program carried on.
7. To determine if there are well-developed consumer education programs being carried on with the states.

It appears that tighter controls are necessary. However, there is a wide gap between "Mr. Citizen" knowledge and federal controls to protect him. Since health frauds can and are confined to state boundaries where federal controls cease to function, it is the responsibility of the state to provide adequate controls and educational programs which may swing the pendulum toward a decrease in this problem. State medical societies, state boards of health, and state boards of education can lead the way in initiating consumer health education programs in their states.

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5. Ibid.
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9. Kallet and Schlink, op. cit., pp. 10-11.
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## DEPARTMENT OF HEALTH

## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

## CURRENT MORBIDITY STATISTICS

1962

\*E. E.  
Oct.

Sept. Oct.

	Sept.	Oct.	*E. E. Oct.
Tuberculosis	142	132	172
Syphilis	111	108	143
Gonorrhea	426	350	365
Chancroid	4	4	1
Typhoid fever	1	0	6
Undulant fever	0	0	1
Amebic dysentery	12	6	2
Scarlet fever and strep. throat	61	58	65
Diphtheria	2	9	12
Whooping cough	33	12	23
Meningitis	4	5	6
Tularemia	0	0	0
Tetanus	1	3	3
Poliomyelitis	15	0	21
Encephalitis	0	0	1
Smallpox	0	0	0
Measles	20	9	31
Chickenpox	3	1	5
Mumps	11	11	25
Infectious hepatitis	69	56	49
Typhus fever	1	0	1
Malaria	0	0	0
Cancer	721	592	587
Pellagra	1	2	0
Rheumatic fever	10	14	9
Rheumatic heart	24	20	19
Influenza	40	36	53
Pneumonia	149	131	145
Rabies—Human cases	0	0	0
Pos. animal heads	1	2	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

\* \* \*

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

## SPECIMENS EXAMINED

October 1962

Examination for malaria	12
Examination for diphtheria bacilli and Vincent's	468
Agglutination tests	476
Typhoid cultures (blood, feces, urine and other)	445
Brucella cultures	2
Examinations for intestinal parasites	2,665
Darkfield examinations	6
Serologic tests for syphilis (blood and spinal fluid)	26,580
Examinations for gonococci	1,992
Complement fixation tests	105
Examinations for tubercle bacilli	3,639
Examinations for Negri bodies (smears and animal inoculations)	216
Water examinations	2,360
Milk and dairy products examinations	4,394
Miscellaneous examinations	4,892
Total	48,252

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

## PROVISIONAL BIRTH AND DEATH STATISTICS, SEPTEMBER 1962, AND COMPARATIVE DATA

Live Births Deaths Causes of Death	Number Registered During September 1962			Rates* (Annual Basis)		
	Total	White	Non-White	1962	1961	1960
Live Births	7,102	4,496	2,606	25.9	27.6	28.5
Deaths	2,348	1,466	882	8.6	8.7	8.3
Fetal Deaths	168	61	107	23.1	21.0	20.0
Infant Deaths—						
under one month	163	85	78	23.0	23.5	20.8
under one year	222	98	124	31.3	31.8	27.6
Maternal Deaths	6	2	4	8.2	9.1	3.8
Causes of Death						
Tuberculosis, 001-019	23	10	13	8.4	8.1	9.3
Syphilis, 020-029	5	2	3	1.8	4.8	0.7
Dysentery, 045-048	1		1	0.4		1.5
Diphtheria, 055	1		1	0.4		0.4
Whooping cough, 056						
Meningococcal infections, 057	1	1		0.4	0.4	0.4
Poliomyelitis, 080, 081	1		1	0.4		
Measles, 085						
Malignant neoplasms, 140-205	314	222	92	114.4	118.9	127.2
Diabetes mellitus, 260	32	18	14	11.7	12.9	14.9
Pellagra, 281	2	1	1	0.7	0.4	
Vascular lesions of central nervous system, 330-334	318	191	127	115.9	118.2	104.8
Rheumatic fever, 400-402	1		1	0.4		0.4
Diseases of the heart, 410-443	764	520	244	278.4	283.1	263.6
Hypertension with heart disease, 440-443	116	45	71	42.3	53.0	47.7
Diseases of the arteries, 450-456	56	40	16	20.4	25.0	18.6
Influenza, 480-483	2	1	1	0.7	1.5	1.9
Pneumonia, all forms, 490-493	50	23	27	18.2	15.5	15.3
Bronchitis, 500-502	5	4	1	1.8	0.7	2.2
Appendicitis, 550-553	3	2	1	1.1	0.4	1.5
Intestinal obstruction and hernia, 560, 561, 570	8	2	6	2.9	5.9	7.8
Gastro-enteritis and colitis, under 2, 571, 0, 764	20	2	18	7.3	8.1	7.5
Cirrhosis of liver, 581	11	8	3	4.0	5.5	7.8
Diseases of pregnancy and childbirth, 640-689	6	2	4	8.2	9.1	3.8
Congenital malformations, 750-759	35	24	11	4.9	5.3	5.0
Immaturity at birth, 774-776	54	29	25	7.6	5.7	6.0
Accidents, total, 800-962	127	96	31	46.3	50.8	51.8
Motor vehicle accidents, 810-835, 960	62	51	11	22.6	26.1	23.9
All other defined causes	355	213	142	129.4	143.9	123.4
Ill-defined and unknown causes, 780-793, 795	153	55	98	55.8	32.8	37.3

\*Rates: Birth and death—per 1,000 population  
 Infant deaths—per 1,000 live births  
 Fetal deaths—per 1,000 deliveries  
 Maternal deaths—per 10,000 deliveries  
 Deaths from specified causes—per 100,000 population



# *The Woman's Auxiliary*

How fast time flies when one is busy. The Christmas season draws near when the Christian world will pause, in its rush, to celebrate the birth of God's son.

How rewarding have been the busy days. As we write, three county auxiliaries have been visited, Cullman, Pickens, and Marion. They are not large in numbers, but they are large in accomplishments. Mrs. J. C. Chambliss, Cullman County president, reports fourteen members giving five scholarships. Mrs. W. W. Duncan, Pickens County president, and Mrs. William Gaba, Marion County president, with even smaller groups have two scholarships each. We have had our Fall Meeting of the Executive Board, reported in the Newsletter.

Also past is the Southwestern District Meeting in Point Clear, which was ably planned and directed by the first vice president, Mrs. Dixon Meyers of Mobile. There we were challenged by the clever presentation of the state AMA-ERF chairman, Mrs. Curtis Smith; entertained by a hat fashion show; and inspired by the report of Mrs. William Baston, Mobile County president, who told of the work done by her auxiliary in organizing and helping to carry out a program of mass polio immunization.

When you read this page the Northwestern and Northeastern Districts will have met, and we hope other counties will have been visited. An account of these will be given in a later issue.



**MRS. JOHN KIMMEY**

And now may we pause to remember the Christmas season. As we work together to sustain the high ideals of the medical profession, which is dedicated to service for the health and welfare of mankind, let us add our voices to the angels' voices as they sing, "Glory to God in the highest, and on earth peace, good will toward men."

A Merry Christmas to you all,

*Ida Kimmey*

President

# THE JOURNAL

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## Carpal Bone Injuries

JOHN D. SHERRILL, M. D.

Birmingham, Alabama

Carpal bones are seven in number, plus the pisiform bone, which is really a sesamoid bone in the flexor carpi ulnaris tendon. These bones are arranged in two rows, each articulates with one or more, to provide dorsiflexion, palmar flexion, radial and ulna deviation, and at the same time to have a stable wrist. The function of the normal wrist is to enhance power of grasp and finger motion, with stability and freedom from pain. Any treatment of the carpal bone injury should

be treated accordingly. This being true an injury, even a trivial one can derange the function of the wrist, causing pain and limited motion.

All wrist injuries should be carefully examined, including X-rays. Even if X-ray reveals no definite bone changes, the wrist should be treated with care, to relieve the patient of subjective symptoms. Be very careful of a positive diagnosis of sprain or strain. If pain, swelling and restricted motion persists, in a reasonable time another X-ray should be advised, including anteroposterior, lateral and oblique views, also X-ray of the opposite wrist, for comparison, should be made. Always insist on X-ray of both wrists in children. A good X-ray is essential for the correct diagnosis.

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Dr. Sherrill is a graduate of Birmingham Medical College and is clinical professor and chairman of the department of orthopedic surgery at the Medical College of Alabama. He is certified by the American Board of Orthopedic Surgery, and is a member of the American Academy of Orthopaedic Surgeons and Clinical Orthopaedic Society.

Presented at the 101st annual session of the Medical Association of the State of Alabama, April 27, 1962, Birmingham, Alabama.

In 1944 a paper on carpal bone injuries was presented by me at the Southern Medical Association meeting; my interest has con-

tinued. We have had an opportunity to see patients with carpal bone injuries who have had very little or no treatment, other than the original X-ray, at the time of the injury. They come to us with a non-union, or a dislocation, which has existed for some time. One of my cases was a nine year old boy with a three months disability of the wrist. He had had repeated X-rays and was advised by the radiologist that no fracture or dislocation was present. X-rays had been made on three different occasions. In seeing the patient he was experiencing pain, limited motion, some swelling, and in comparison with the opposite wrist, including X-rays of both wrists for comparison, the small semi-lunar bone was recognized as being dislocated anteriorly.

Another patient was seen recently with a fracture of both radii who was treated for the fracture with no attention given to the carpal bone injury. The X-ray definitely revealed a dislocation of the scaphoid and semi-lunar bones in both wrists. The fracture of the radius in both right and left wrists had healed in malposition. The injury had existed approximately 11 months.

It must be remembered carpal bones have many articulating surfaces. The bones are covered with hyaline cartilage. There is very little or no periosteum, and there are very few attachments for blood vessel invasion. The blood supply of the carpal bones arises from the nutrient vessels of the ulna and radial arteries. Of particular importance are the vessels entering the scaphoid, one enters the tuberosity and the other enters the body of the bone through the dorsal carpal ligament and traversing the thin waist of the scaphoid. This means the carpal bone injuries are without periosteal callous and blood supply. This predisposes to slow healing or non-union due to circulatory changes.

The semi-lunar is the keystone of the proximal arch and is most often subjected to dislocation. The scaphoid occupies about two fifths of the radial side of the proximal row and is most often fractured. Together with the semi-lunar and the triangular they form a socket to receive the os magnum and the

hemate. The proximal row also has a dorsal convexed arch with the transverse carpal ligament crossing the base like a bow string. All the flexor tendons insert distally to the proximal carpals, with the exception of the flexor carpi ulnaris. The distal row of carpals are fixed to the metacarpals more firmly than to the proximal carpals and should be considered moving with the metacarpals as the same unit.

Fresh fractures should be treated by immobilization, and if necessary even prolonged immobilization, in a circular cast, including the base of the thumb, with the wrist in about 15 degrees of radial deviation and 30 degrees of palmar flexion. The index, middle, ring, and small fingers do not require immobilization. Early finger motion is encouraged. Cast changes should be made as often as necessary.

Non-union should not be diagnosed before four months has elapsed. Bohler reported immobilization of his cases for approximately six weeks with good results. It has been my experience that carpal bone injuries should be immobilized for a much longer time, and as stated, even as long as four months. Fractures of the carpal bones in my experience heal slowly and non-union is not unusual. Only in severely comminuted fresh fracture cases do we consider excision. The semi-lunar is one exception. Cases of three, four, and five weeks duration should be treated as fresh fractures and be given some form of positive immobilization. If, following the removal of the cast, there is union and freedom from pain it is best to employ a cock-up splint or some type of wrist support. Some authors do not advocate immobilization of the thumb or placing the hand in radial deviation. Berlin, following a dissection of 60 wrists, demonstrated that the best approximation is thus obtained by palmar flexion and radial deviation. Movements of the thumb can cause motion in the fragments through attachments of the adductor pollicis brevis at the luna ligament. Dislocations of the scaphoid are rare. Closed reduction



should be attempted. If not successful, then excision can be considered.

Reports of open reduction of the scaphoid are reported with good results. I have not had a case of a dislocation of the carpal scaphoid. Dr. Morgan has successfully reduced a dislocation, by closed reduction, in a case with a good result.

In the treatment of non-union of the carpal scaphoid the following methods have been advocated: immobilization, drilling, bone grafting, by the dowel, or slot method, fixation of the fragments to another carpal bone, or excision of one or more of the fragments, or even resection of the styloid process of the radius, or to fusion of the wrist. From this variety of treatment it is evident that none is satisfactory. In my cases of drilling none have shown bony union, and one was later excised for relief of pain. A case was grafted by the slot method and the fracture line was still visible one year later. The graft absorbed and the patient still had his non-union.

In recent years we have done more excisions than any other procedure, and except for the earliest cases have excised both fragments. In cases with associated semi-lunar injuries it was necessary to excise the entire proximal row of carpals. This is better than wrist fusion. We have seen cases in which mal-union of the scaphoid resulted in about 50 per cent disability and the patient refused excision. We have seen several old non-unions with few disabling symptoms. In 11 cases of non-union, six of which were combined with injuries of the semi-lunar or midcarpal joint, we have excised from one to all of the proximal carpals with resulting disability of from 15 to 75 per cent, averaging about 40 per cent. To obtain better results the surgery should be performed earlier and preferably after compensation claims have been settled.

It must be remembered that many non-unions have reasonably good function and will not benefit much from surgery. We know of a professional baseball player who is able to grip the bat and ball despite his non-

union. Another who incurred a scaphoid fracture while boxing has successfully worked as a painter.

Pain and disability, especially stiffness, are the chief indications for surgery. The patient should have the benefit of immobilization at least to determine whether the pain and disability of the hand will improve. If it does not, then the post-traumatic fibrositis and arthritic changes are probably too far advanced to expect a good surgical result. Then wrist fusion may be necessary. The X-ray should be carefully examined for sclerosis of the approximating surfaces and cystic changes within the scaphoid before determining whether or not a non-union is definitely present, whether it is on a circulatory basis, or due to faulty immobilization.

Osteitis of the carpal bone may follow an injury, or even minor occupational trauma. If prolonged immobilization does not relieve the symptoms then excision is advisable. The semi-lunar bone is most commonly dislocated anteriorly. Occasionally it may be fractured and is often seen to be dislocated in association with a fractured scaphoid. A dislocation may be of any degree. We have never seen a posterior dislocation of the semi-lunar. The most serious complication is median nerve paralysis from pressure of the semi-lunar, and in old unreduced cases the paralysis may be permanent.

Fresh dislocations should be reduced by the closed method if possible, either by traction or manipulation, followed by several weeks of immobilization. If closed reduction is not successful the operative replacement may be attempted, although we have had no success with this procedure. We prefer to excise the bone. This, of course, holds true for old dislocations as well. Particular attention must be paid to the median nerve involvement, as we have seen a case having good wrist function, but still having poor finger function. At operation the median nerve has been found to be stretched over the dislocated semi-lunar and had been that way several weeks aggravated by unsuccessful manipulation. We have also had an oc-

casion to diagnose a dislocated semi-lunar in a child on clinical findings and by comparing X-rays of the normal and the injured wrist. A case in which post-traumatic necrosis required excision resulted in only approximately ten per cent disability. However, in the case of the fractured semi-lunar excised one year after the injury the patient had only 15 per cent of normal wrist motion. Undoubtedly, the soft tissue changes are important as regards the final disability.

We have seen several cases of midcarpal dislocations combined with injuries to the scaphoid or semi-lunar. Where a closed reduction was unsuccessful it was necessary to excise the proximal carpals to re-establish the function of the fingers. We have seen a carpo-metacarpal dislocation which is extremely rare, because this is the most stable of all the carpal joints. It was successfully reduced by operation with a good result.

Injuries of the other carpal bones are extremely infrequent, except for the greater multangular, of which about 20 cases are reported in the literature. Green and Miller reported four cases of the trapezium and os magnum treated conservatively. If there is a severe comminution the bone is best excised. Petersen reported a fracture dislocation of the lesser multangular. Excision resulted in normal wrist motion.

Traumatic rarefying osteitis may affect any or all of the carpal bones. Brainard reports a case of repeated minor occupational trauma resulting in osteitis of all the bones, with a swollen, painful wrist and limited motion. X-ray shows a loss of the normal contour with osteoporosis and cystic changes. Immobilization resulted in almost complete recovery.

Prey and Foster advocate a peri-arterial sympathectomy as superior to immobilization. We have seen a case of cystic changes in the scaphoid and one of similar changes in the semi-lunar which responded to immobilization with good results.

## Summary

In conclusion we should like to emphasize the following points:

1. Wrist sprain should not be diagnosed until X-ray and repeated X-rays are negative.
2. If pain persists films should be made at intervals, even though the original film was negative.
3. In fractures of the lower end of the radius or ulna look for associated carpal injuries.
4. Conservative treatment of fresh fractures of the scaphoid and closed reduction of the dislocated semi-lunars is the treatment of choice.
5. Conservative treatment is advisable in non-unions of the scaphoid if there is reasonably good wrist function.
6. Excision of one or more carpals is advocated in the treatment of comminuted fractures and dislocations of the semi-lunar. Open reduction of the carpo-metacarpal joints should be done if conservative treatment fails.

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# Nonoperative Considerations In Pediatric Surgery

HUGH B. LYNN, M. D.

Rochester, Minnesota

Surgery has reached a peak of achievement and proficiency which almost defies comprehension. Every medical meeting seems to produce a startling report of some surgeon's ingenuity and industry or some patient's remarkable response to illness and therapy. Almost weekly the lay press alerts the public to a new operation or treatment which will eliminate or cure some intolerable physical ailment.

With all these new discoveries and increasingly aggressive surgical technics it is possible to overlook the basic principles of preparation and care of the patient. Possibly nowhere in medicine do these fundamentals pay higher dividends than in the case of the infant or small child undergoing operation.

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Dr. Lynn is a graduate of Columbia University College of Physicians and Surgeons, New York, New York. He is a certified member of the American Board of Surgery and a member of the Central Surgical Association, American College of Surgeons, and the American Academy of Pediatrics. Dr. Lynn is an assistant professor of surgery of the graduate school of Mayo Foundation.

Presented at the 5th Annual Medical Progress Assembly, Birmingham, Alabama, September 30 to October 2, 1962.

The decision to submit an infant to surgical treatment is difficult for the parents, the family physician, and the surgeon. The questions still arise all too frequently as to whether the patient should be saved *by* surgery or *from* surgery (fig. 1). As a children's



Fig. 1. To save the infant from surgery or by surgery remains the conflict in too many minds.



surgeon I feel the obligation to do my part to dispel this quandary through the education and training of personnel associated with my program at all levels and through establishing facilities which are adequate at all times for the job to be undertaken. No surgeon derives any real satisfaction from doing an unnecessary operation; however, when surgical treatment is indicated, it is better to do it as promptly and as efficiently as is commensurate with good surgical preparation.

Accepting the infant or small child for surgical care carries an obligation above and beyond that of the usual pediatric case. The surgeon's workshop is almost exclusively the hospital. It has been estimated that anywhere from 70 to 90 per cent of all general pediatric surgery is elective in nature. This elective category does not imply any lack of necessity but merely a lack of urgency *at the moment*. On this basis, the assigning of an elective case to the hospital would seem to place added responsibility on the physician and the hospital. Any lack of properly functioning equipment, shortage of personnel, inadequacy of blood bank supplies, or unusual infection rate should leave the physician and hospital morally liable, if not legally accountable, for other than emergency care. The facilities and equipment for infant care are expensive and elaborate. Such problems as isolation and segregation by ages dictate a lower average bed occupancy than that found in units for adults. It is well accepted that the ratio of man-hours at all levels of nursing care per patient required in a nursery far exceeds the ratio for adult care. It is only recently becoming generally known (although not always accepted) that, on the average, the demands for care of the surgical infant exceed those for the medical pediatric patient to almost the same extent that the pediatric patient's demands exceed the adult patient's demands. The strain placed on the nursing service by just a few critically ill postoperative infants can be only met by sacrifice on the part of those dedicated people who choose to earn their livelihood in a surgical nursery and accept a large portion

of their pay in unbounded love from helpless patients. Nurses who are unfamiliar with surgical conditions in infants necessitating chest tubes, drainage systems, and such equipment usually do not contribute significantly when they are suddenly reassigned from a clinic or some less busy adult section of the hospital to "help out." In my experience many special duty nurses have been unsatisfactory for almost the same reasons, since few of them choose to make a career of special care of critically ill infants.

The difficulties of obtaining adequate quantities of urine, blood, sputum, and other specimens for laboratory studies and the problems of obtaining satisfactory roentgenograms without the patients' cooperation further tax the hospital facilities. However, if infants are to be accepted for care, the entire hospital staff is obligated to prepare for and to care for these patients in an acceptable manner. Being aware of all these problems, it is surprising that more hospitals do not refuse to admit infants and small children.

Any surgeon who considers himself qualified to accept an infant as his responsibility must also accept the parents and grandparents and their friends as his responsibility. The simple yet complete discussion of the problem and the postoperative explanation to the anxious family are just as much a part of the surgeon's job as the intricate operation for which he has spent many years preparing himself. The family physician and the pediatrician can assume only so much of the surgeon's obligation, in spite of their previous association with the family.

Whenever possible, hospitalization prior to operation should be held to the minimal time necessary to procure all essential tests. Admission to the hospital the afternoon or evening before operation seems best for the patient and allows adequate time for admission, adjustment to the situation, and safe preparation for anesthesia. The emotional turmoil of the toddler may be lessened considerably if endless delays and examinations are avoided through better use of outpatient

studies. Everyone agrees that the small child belongs in his own home as soon as possible after surgical treatment, and each year, through progress, hospitalization seems to be shortened.

The actual admission to the hospital should not come as a surprise to the 5-year-old child. While details may be glossed over, the truth must always be told. A matter-of-fact statement in the office or just prior to starting for the hospital usually produces less unhappiness than the sudden realization that he has been tricked, lied to, and practically abandoned. By and large, the youngster takes his cue from his parents and their fears and apprehensions rapidly become his.

Pleasant surroundings designed expressly for the admission and processing of children by personnel who understand and enjoy helping them should be provided. These people can make the transition from the home and outside world to the hospital room a casual and interesting journey if they take pride in their jobs and are not overworked. The knack of calling a small child by the name or nickname with which he is familiar is often the first and most important step, and this familiar name should be used throughout his hospitalization. It is equally important that the floor nurse learn from the parents the patient's terminology for going to the toilet, for going to sleep, for his favorite foods and for his toys.

In the preoperative preparation, once the essential studies are obtained, the less said and done, the better. Certainly the anesthesiologist will wish to examine and become acquainted with the patient and to prescribe preoperative medications and possibly some bedtime sedative in special cases. If it is anticipated that the patient will require an oxygen tent, suction tubes, and similar equipment, a stroll along the corridor and a few simple comments without too much detail may adequately prepare the child without arousing too much anxiety. The oxygen tent itself may be an entertaining experience for a few minutes on the day before operation.

The tent probably is used as frequently for air conditioning with control of temperature and moisture as it is for increasing the oxygen concentration of the inspired air, and on this basis it is usually needed for only a few hours or a day or two.

While it is always wise to limit the discussion of a child's problem in his presence, it is doubtful if the casual use of such words as "neoplasm" or "resection" produces as much anxiety as do whispering and ominous gestures which are intended to escape the patient's notice.

It has become routine practice to prepare the skin at the operative site with a pHisoHex scrub and saline rinse. As an additional precaution, the area is washed with pHisoHex the night before operation and is allowed to dry without rinsing or wiping. In order to be sure that the entire area is covered, it is helpful to add some vegetable coloring to the solution used for the preliminary scrub.

If there is any possible question as to the side of the body on which the operation is to be performed (as with hernias, biopsies, masses), a coating of nail polish applied to the appropriate great toe nail in the presence of the parents often proves to be a help and a double check when the infant is being prepared for draping in the operating room.

An incubator with a plexiglass shell and forced circulation of filtered air with easily controlled temperature, concentration of oxygen, and humidity is a tremendous asset in the care of the newborn. The ease of isolation, the convenience, and the accessibility make for better and safer nursing care. Electronic devices employing a rectal thermocouple are now available for regulation of the infant's temperature. The unobscured view of the infant at all times and the elimination of the need for clothing on the baby or gowns on the staff are sufficient reasons for advocating the use of such incubators.

Intravenous Administration of Fluid.—The intravenous administration of fluids is routine during and after practically all surgical



procedures of any magnitude in the younger age group. The intravenous cutdown with use of a plastic catheter is a well-standardized procedure. Arm or leg boards and restraints have been abandoned in favor of an elastic bandage wrap which permits unrestrained mobility with safety and probably has decreased the incidence of phlebitis and has eliminated pressure sores. For the larger children a percutaneous venipuncture employing a Rochester plastic needle with removable stylet has greatly simplified the problem of restraints and has virtually eliminated the hazard of infiltration (fig. 2).

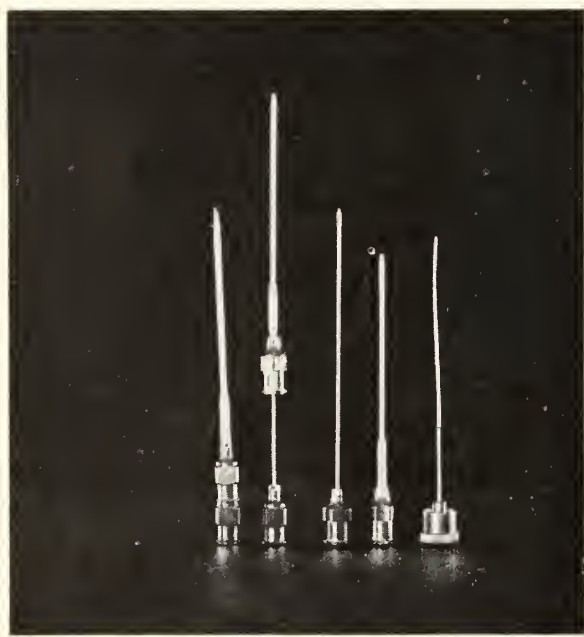


Fig. 2. Rochester plastic cannula with needle stylet makes percutaneous cutdown possible in larger children.

Many companies now produce equipment which permits accurate administration of small amounts of fluid. The Abbott Hemaset or Soluset and Baxter Pedatrole are satisfactory for this purpose and should aid in the elimination of contaminated fluids, overhydration, and too rapid administration. One of the microdrip apparatuses provides a most accurate regulation of intravenously administered fluids.

When dealing with infants and children it has been found safest to reevaluate the status of the patient at frequent intervals. In view of the rapidity of change and the variation in the needs (vomiting, suction, waste elimination), it is unwise to rely too heavily on any of the rule-of-thumb scales of fluid therapy. While 1500 ml. per square meter of body surface per 24 hours is a fair basic rule, it can lead to overhydration postoperatively in premature infants, or even to dehydration in the child with such conditions as intestinal obstruction or pyrexia. The fluid requirements should be reassessed every 8 hours to conform, if possible, with nursing shifts, thus eliminating many of the errors so commonly encountered in this area of treatment. The use of vitamin C and B complex in the electrolyte solutions seems to be well accepted.

In critically ill patients, frequent small blood transfusions (5 ml. per pound of body weight) seem to be the best treatment. While the procedures may be a burden on the liver and kidneys, it is certainly evident that the clinical response is out of all proportion to changes in hemoglobin, red blood count, serum proteins and other blood values reported on laboratory study. At the risk of sounding facetious, it should be emphasized that in institutions where micromethods are not available, the enthusiastic pursuit of laboratory studies often will necessitate a transfusion just to "hold the line."

In spite of the newer methods of administration of preoperative medication and the increasing use of rapidly eliminated inhalation anesthetics and muscle relaxants, there is still a real need for anesthesia waiting and recovery rooms. An area immediately outside the bustling operating room enables the patient to rest quietly without distraction from other patients. In order to enhance the value of this period, some hospitals have practically eliminated the visiting of parents on the morning of operation.

Certainly the ideal situation is to have the child who is reacting from the effects of anesthesia cared for by qualified personnel



under the supervision of the anesthesiologist. The greatest hazard for a reacting child is the failure of any one person to accept the responsibility for the child's safety until he is able to handle his own secretions and is well aware of his surroundings. Because of developments in anesthesiology, this period of recovery is becoming remarkably short in some hospitals, but the facilities and care are still essential.

Almost as important as the proper preparation of the small child for operation is the proper scheduling of the cases in the operating theater. Naturally every surgeon and every operating room supervisor must make concessions and adjustments in order to obtain maximal utilization of facilities and time. However, it must be kept in mind that the safety and comfort of the patient are ever the prime considerations. Infants are less mindful of time than are toddlers, whose first reaction on awakening is to cry for freedom, food, and companionship (fig. 3). The small child who receives "nothing by mouth," is denied his liberty, and then is insulted with injections to dry up his secretions and make his eyes heavy and burning, usually becomes irritable, flushed, and overheated from crying and medications if his scheduled operation is delayed too long. Unless the preoperative period between awakening and induction of anesthesia is kept relatively short, the entire procedure can become distasteful to the patient and family and most unsatisfactory for the anesthesiologist and surgeon. Older youngsters can usually be made comfortable for later scheduling through a simple explanation and proper sedation. It has been my practice to schedule patients according to age and then to vary the order to give the more critically ill infants and the most apprehensive and unreasoning toddlers the preference. The scheduling of young children for operations in the afternoon has never seemed satisfac-



Fig. 3. Early morning scheduling of operations and avoidance of delays are advocated for small children.

tory even if the morning meal is permitted at home and the morning hours are spent in the process of admission to the hospital. It is of prime importance that every effort be made to carry out the patient's operation as planned and on schedule. Any alteration in plans should come about only for the patient's benefit or because of his condition and never for the convenience of the physician and hospital personnel.

In these days of limited nursing personnel, particularly at the graduate level, it is important that the order sheet not be cluttered with any unnecessary, time-consuming procedures. The relative value of many of the points I am making will vary from physician to physician. Be that as it may, there are basic fundamentals of nursing care which must be demanded. The preoperative enema or enemas are now a part of the history of medicine except for patients who actually are to undergo intestinal operations. In such cases diligent cleansing by all mechanical means is advocated; chemical sterilization of the gut is not usually employed.

While it is always comforting to see by the chart that the pulse, respirations, blood pressure, and temperature are stable, I would venture to say that a devoted intelligent nurse can tell more about a patient's condition from looking at him and making essential verifying examinations than can a less interested and less thoughtful worker who dutifully records vital signs every 15 minutes.

The routine use of nasogastric suction tubes during the hours immediately after major surgical procedures, while basically advocated as a safety measure against vomiting and aspiration, also seems to speed the convalescence and possibly shortens the actual hospitalization. The control of distention, due to both air and secretions, rests the intestinal tract and permits the early return of normal bowel tone. A tube which is not functioning properly is really worse than no tube at all. Attention must be paid to its position, comfortable and secure taping, drainage, and irrigation at regular intervals. The intermittent type of automatic suction

is desirable but, lacking this, a suction syringe applied at intervals to the dangling tube will usually give better results than a constant suction apparatus, unless the constant suction is released at frequent intervals. The gastric mucosa of the infant is of a succulent nature which easily blocks all the holes in the catheter as soon as the initial pool of secretions is removed and thereafter prevents any function until the tube is irrigated, or at least relieved of suction.

Placing the infants on the right side a major portion of the time and avoiding prolonged restraining in the "spread-eagle" position flat on the back are most important factors for proper functioning of the tube. Dependency of the pylorus and proper functioning of the suction apparatus prevent vomiting and trapping of swallowed air and excessive distention with accumulated secretion (fig. 4 and 5). After the tube is removed and feedings are started, it is often advantageous to employ some form of chair or reclining back rest to maintain the infant

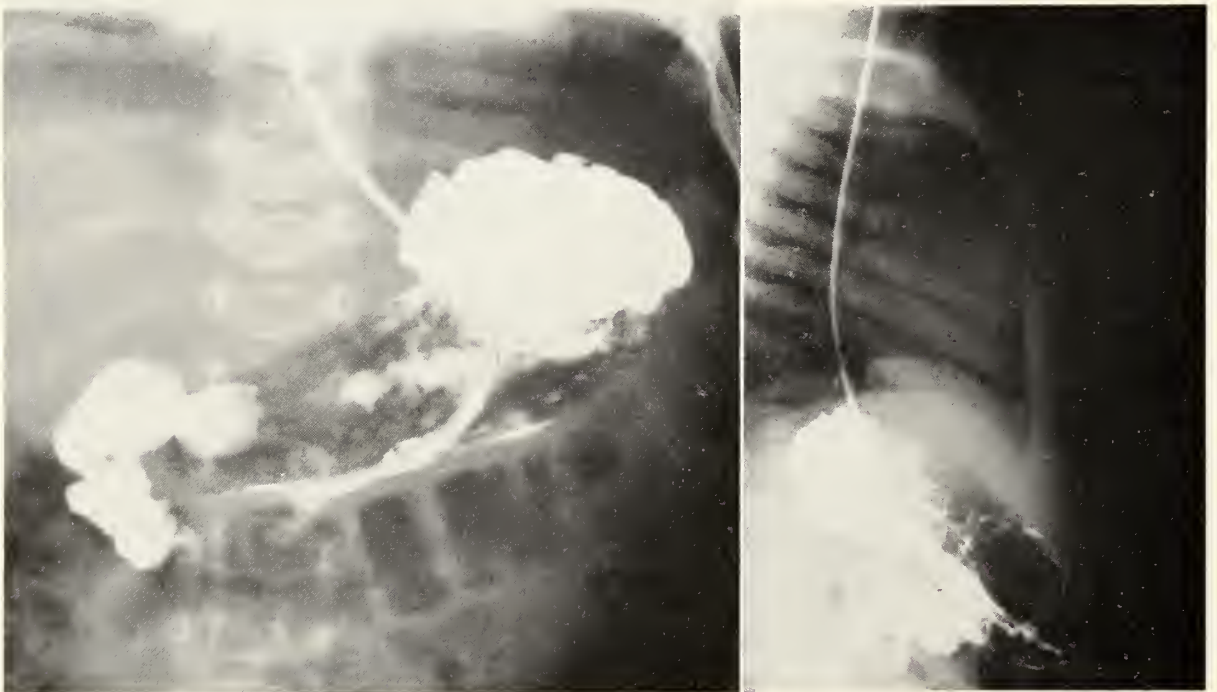


Fig. 4. a. Anteroposterior view of abdomen. The patient is restrained flat on his back while radiopaque material is injected through a naso-

gastric tube. Note puddling in the fundus of the stomach. b. Lateral view of patient taken immediately after injection of radiopaque material.



in a sitting position for 20 to 30 minutes after each feeding, particularly for infants who have had some form of intestinal obstruction.

For tiny infants, the use of small, clear glass trap bottles is important (fig. 6). Huge amber jugs make it virtually impossible to measure accurately the amount of suction or drainage fluid or to detect the actual nature of the return and their use is to be deplored. This is of even greater importance when dealing with thoracic suction where bleeding may be a possibility.

There are many instances in which the use of an indwelling urinary catheter is justified. Naturally it is more often desirable to use other methods for the collection and these include various apparatuses for boys, such as Sterilon bags and the snorkel apparatus. In the case of girls, the Bradford frame with collecting pan is practically the only alternative to the catheter. In critical cases in which the hourly urine output is of real concern, a catheter is employed. A row of bottles in a

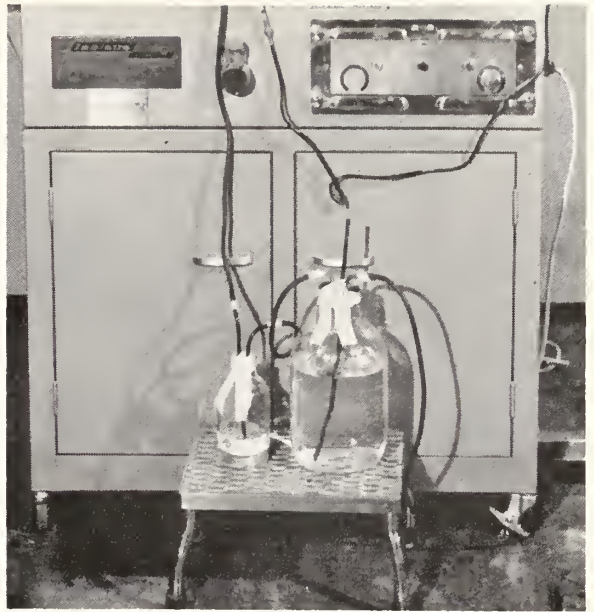


Fig. 6. Small clear glass bottles are recommended for collection bottles in infants and small children.

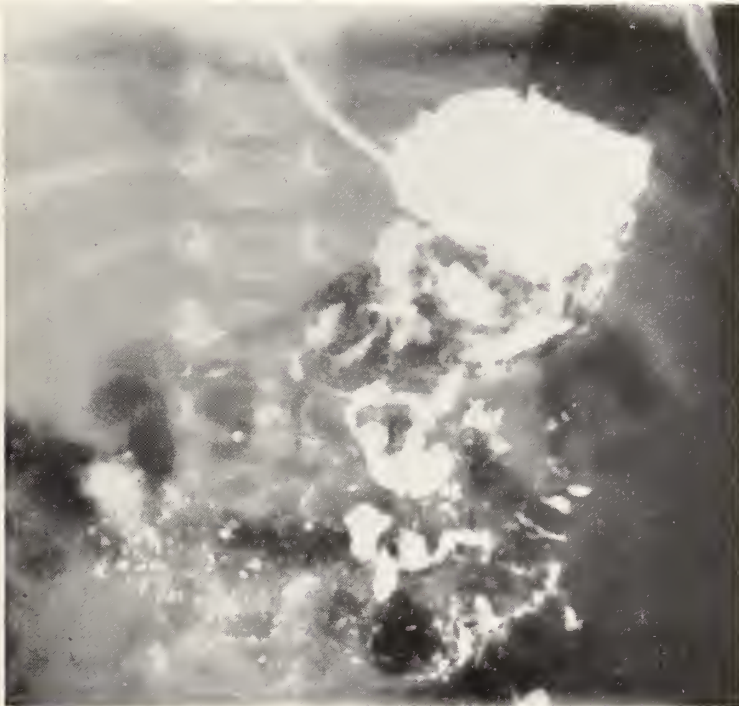


Fig. 5. a. Anteroposterior view of abdomen of same patient as shown in figure 4. The patient has been restrained flat on his back for half an hour.



Note that the major portion of the opaque media is still puddled in the fundus of the stomach. b. Lateral view of patient.



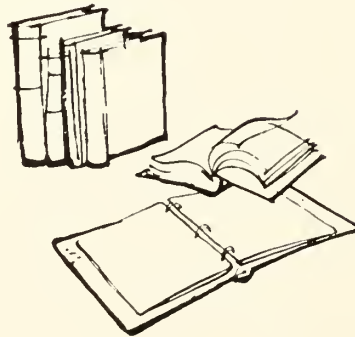
rack suspended from the side of the crib will give the physician much information at a glance and requires only the hourly shift of the drainage tube to the next bottle.

The use of wound dressings is another phase of care which is undergoing change. Most of my patients leave the operating room without any dressings, and all wounds except those with drains or drainage are uncovered the next morning. Dressings are not necessary and it is quite possible that they are even harmful. Once the patient has reacted fully and has lost any possible urge to tear at his incision, there seems little reason to have a dressing and tape which may be damp, soiled, and irritating.

While small children do not pose the problems of adults, any activity from crying and struggling in the bassinet, to sitting in a chair or walking is to be demanded and encouraged. It is customary for my assistants to do daily rectal examinations on all postoperative patients. This procedure not only eliminates the possibility of fecal impactions but also contributes an excellent stimulus to physical activity and deep breathing. The use of sedatives and narcotics in the postoperative period is rare on an efficient pediatric surgical

service. Once the first cautious movements are made, the need for medication of this sort rapidly disappears. Some toddlers who refuse to stand up often will enjoy fairly vigorous exercise if properly restrained in a safe rocking chair and left to their own devices.

For many years it has been my firm belief that the successful outcome of any surgical procedure on an infant is due in small measure to actual operative skill. The attentions of the anesthesiologist, the house staff, and the nursing personnel, when stimulated and encouraged by a concerned surgeon, far outweigh any special technical ability displayed at the operating table. It is the combination of these ministrations which consistently produces the successful final result, and ancillary personnel and assistants cannot be expected to pursue the minutiae of patient care with vigor and enthusiasm unless the surgeon, who is responsible for the case, takes the initiative. It is his enthusiasm and alertness to the details of surgical care which eventually will lead to the acceptance of surgical treatment in the infant and small child on the same matter-of-fact basis that is now accepted in the adult.



# Bacterial Infections Of The Chest In Children

MARGARET H. D. SMITH, M. D.

New Orleans, Louisiana

Bacterial infections of the respiratory tract remain of paramount importance in spite of, and partly because of, the effectiveness of the numerous antimicrobial drugs now available. Not only do we see the classic forms of pneumococcal pneumonia, but streptococcal and staphylococcal pneumonias have become more prevalent than they were ten years ago, and there appears to be a definite increase in the incidence of pneumonia due to Gram-negative organisms.

**Pneumococcal pneumonia**, either the classic localized ("lobar") type or the disseminated type ("bronchopneumonia") are both frequently seen in children. With appropriate antimicrobial drug therapy, resolution is usually complete within a few days, especially in the localized type. While an X-ray view of the chest is highly desirable early in the course of what appears to be a straightfor-

ward, simple case of pneumonia, both postero-anterior and lateral views become mandatory when recovery is delayed. Persistence of fever, chest signs or clouding on X-ray should lead to a consideration of complications such as atelectasis, empyema, obstruction of the tracheobronchial tree by a foreign body or by some chronic granuloma as seen in endobronchial tuberculosis or histoplasmosis.

**Streptococcal pneumonia** seems over the last few years to be on the increase in the South, along with the many other clinical manifestations of beta hemolytic streptococcal disease. Streptococcal pneumonia is characterized pathologically by extensive lymphatic spread throughout the lung: on X-ray enlargement of the hilar lymph nodes is often striking. Lateral X-ray views of the chest are particularly useful in demonstrating these enlarged lymph nodes. Clinically these patients are often extremely ill, with high sustained fever, and high leucocyte counts.

**Staphylococcal infections** currently constitute one of the most important infectious diseases, both in this country and in many parts of the world. One of the striking epidemiologic features of staphylococcal pneumonias is the high incidence in infants under one year of age. Clinically important in diagnosis may be what Hendren and Haggerty<sup>1</sup> have termed "clinico-radiologic dissociation", namely the discrepancy between severity of clinical findings and the extent of the X-ray

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Presented at a meeting of the Alabama Chapter of the American Academy of Pediatrics and the Medical College of Alabama in Birmingham, Alabama, January 31, 1962.

lesions: the child may appear severely ill, even cyanotic, with little on chest X-ray or, on the contrary, a chest X-ray may reveal striking pulmonary lesions in a child who does not appear very ill. Smears of gastric aspirates, a technic familiar since the 1920's in the diagnosis of tuberculosis, have recently been recommended by Eichenwald and Wheeler<sup>2</sup> as useful aids in the differentiation of staphylococcal pneumonias. We ourselves have not as yet been very successful in using this technique but we feel that it deserves careful evaluation by several groups of workers. In diagnosis, culture of the infecting organism is essential particularly in the case of the staphylococcus, where sensitivity to the various antimicrobial agents varies so much from strain to strain. At the present time penicillin (to which a few strains are still very sensitive), erythromycin and chloramphenicol seem to be the most satisfactory combination of drugs in our area, with Staphcillin,<sup>®</sup> Vancomycin,<sup>®</sup> novobiocin and bacitracin held in reserve for patients whose strains are not initially sensitive to the first three drugs mentioned, or whose organisms develop resistant variants under treatment. In every case we feel that at least two drugs should be employed simultaneously; and that the treatment regime should be adhered to unless the laboratory reports a change in sensitivity. If fever persists during treatment of a patient with staphylococcal pneumonia, or if it reappears, collections of pus should be suspected and carefully sought, both within the chest, and elsewhere in the body. We believe that surgical drainage of the chest is frequently advantageous in staphylococcal pneumonia, the following serving as principal indications: 1—pneumothorax, 2—presence of thick purulent fluid, 3—shift of the mediastinum, 4—large pneumatoceles appearing early in the disease, where sudden rupture is to be feared. The presence of a small amount of the fluid in the chest is not necessarily an indication for surgical drainage, nor is the presence of a pneumatocele late in the course of the illness, when sudden rupture is rare. When surgical drainage is decided upon, both postero-anterior and lateral films of

the chest are essential for the proper placement of the tube, which is to be connected to underwater drainage. The tube itself should not be too long, for a long tube within the chest tends to coil and buckle, and therefore to become plugged up. The patient's subsequent condition is not satisfactory, or if X-rays show development of a new lesion requiring drainage, a second tube may be inserted for a different lesion in a different area. Since drainage tubes not only provide an escape for air and pus, but also an avenue of entry for secondary contaminants, they should be withdrawn little by little and removed as quickly as possible. The use of lytic enzymes such as pancreatic dornase and varidase have not, in our experience, proved very satisfactory in children: high fever, cyanosis, rapid accumulation of fluid have frequently followed their instillation. The duration of antimicrobial therapy in staphylococcal pneumonia is a vexing problem for which we have found no rule. We feel that at least one drug known to be effective against the patient's particular strain of staphylococcus should be continued for a matter of weeks, preferably in an oral form.

Remarkable in our experience, as in that of others, has been the high rate of apparent good recovery from staphylococcal lung disease. We know of only one case in which bronchiectasis was demonstrated on subsequent bronchograms, although we ourselves have performed bronchograms on many children convalescent from staphylococcal pneumonia.

**Bronchiectasis** is another problem of bacterial infection, in this case a chronic one. Occurring in children most often following foreign body, atelectasis, cystic fibrosis, it can still be, in our experience, a very trying problem in children, especially if it is so diffuse as to render surgery impossible. Conscientious use of mucolytic agents, bronchodilator drugs and effective postural drainage are tremendously important. Whether the continuous use of broad spectrum antimicrobial drugs is a good thing we are not sure. In the experience of many, the incidence of trouble-



some secondary infections with very resistant organisms has been high. In the type of chronic pulmonary disease which accompanies cystic fibrosis, it is possible that the high sodium chloride content of the nasal secretions and saliva is inhibitory to the Gram-negative organisms which usually make up the secondary invaders;<sup>3</sup> perhaps this phenomenon accounts for the fact that long term administration of the "mycin" drugs is so effective in this disease, and is rarely complicated by secondary infection.

**Tuberculosis** is too large a problem to more than touch on here, but it is well to remember that it is still the leading infectious disease in this country. To make a definite diagnosis of tuberculosis in a child at least two of the following should be present: 1—a positive skin test to the intermediate strength of PPD, with 10 mm or more of induration, 2—a positive culture from node or gastric washings, 3—a positive biopsy, 4—a strong history of contact, 5—compatible X-ray lesions.

In children, as in adults, one should treat all active cases of tuberculosis for at least one year, using INH and Na PAS together, with streptomycin reserved for those patients with serious forms of the disease, i.e., miliary, meningeal, osseous, renal. One might define as active: 1—all cases which have shown con-

version of the tuberculin test within the year; 2—those cases in children under the age of four or five years; 3—those with radiologic lesions suggesting active disease; and 4—those with clinical manifestations such as low grade fever, loss of weight, etc. Children at puberty and those with very strongly positive skin tests (i.e. 20 mm or more of induration) should be watched with particular care, as should those known tuberculous children who develop measles, since measles is apt to "activate" tuberculosis.

In conclusion, bacterial infections of the chest are more important than ever to the pediatrician, since proper treatment must be based upon accurate diagnosis, and accurate diagnosis in turn pre-supposes good X-rays, good bacteriologic data, and a solid foundation of clinical experience and judgment.

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## *Editorials*

### **THE DEATH OF FRIENDS**

The death of friends should inspire us as surely as their lives. Their accomplishments, sacrifices, dedications, earnest assistances, and humble criticisms should be reviewed; and they should become living monuments within all who have shared, to whatever degree, this priceless human state called friendship. Though the friends have departed, the image and the bond remain because the ultimate, final seal of everlasting friendship is death.

We are sad. We are doubly sad.

Within several moments in the history of Alabama Medicine two great men were lost. Coming as these deaths did, within three days, and representing attrition in a field of medicine where any loss is more keenly felt, the entire profession has taken special pause.

The first phase of medicine is preventive medicine and public health. Alabama has always stood second to none in its organization and administration of public health. The fruits of this labor have been widespread, and they have been for far too long taken for granted. Throughout the past half century it has fallen the lot of a few dedicated physicians to maintain the first efficient State Public Health Program. In this so-called age of specialization only the physicians with a missionary spirit have spent years in post-graduate medical study and training only to return to below average wages in Alabama Public Health.

Yes, we believe in the missionary spirit. We believe there are still missionaries among

us and that there are more to come. We are looking to youth while recalling the past with reverence.

Dr. D. G. Gill died on December 3, 1962. Dr. Douglas L. Cannon died on December 5, 1962. Obituaries and other recordings have preserved these biographical statistics. We enter them both high on our list of everlasting friends.

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### **LOOK OUT FOR LIEFCORT**

Arthritis sufferers were warned recently by the Food and Drug Administration not to take the drug Liefcort, which is illegally being brought into this country from Canada, because of its serious side effects.

Despite this warning there are some unconfirmed reports that this dangerous drug is being obtained and used by sufferers of arthritis in Alabama.

The drug, which was publicized in a national magazine article last May, causes serious reactions, including severe uterine bleeding.

Liefcort contains potent hormones including estradiol, prednisone, and testosterone. FDA analysis showed the product contains ten times the therapeutic dose of estradiol.

According to the FDA Bureau of Medicine the hormones are capable of causing severe toxic effects. Prednisone has been and is being used in the treatment of arthritis, but there are hazards in its use; and the dosage

must be carefully regulated. In some patients, the drug causes severe symptoms of toxicity. Testosterone and estradiol have never been observed to exert any beneficial effect in arthritis and may also produce serious side effects.

Liefcort was developed by and is being promoted by Robert Liefman, M. D., who is wanted by U. S. Marshals for selling a baldness "cure." Liefman fled to Canada before he could be apprehended and is not licensed to practice medicine there. The drug is labeled as being distributed by Endocrine Research Laboratories, Beaurepare, Canada. It is compounded in Liefman's home, FDA said.

One severe adverse reaction involved a 71-year old woman who flew to Canada to see Liefman after she read about Liefcort last May. She returned to California with a year's supply of the drug. After taking the drug, she developed severe internal bleeding for which she was hospitalized on July 10, 1962. Following an operation to stop the uterine bleeding, she developed pneumonia and died on August 9, 1962.

The FDA physicians urgently warn arthritis patients not to use Liefcort and not to consent to use of the drug as part of an "investigation" because there are no qualified investigators in the United States authorized to use it. They said the facts available about the manufacture of the drug and the lack of laboratory control to insure its composition and safety are such that its use even for experimental purposes is hazardous.

### SICK AMERICAN TELLS WHY

The following letter was sent by a resident of San Francisco to columnist Lawrence A. Collins of the Independent Press-Telegram of Long Beach, California.

The sickness to which Paul A. Terry, director of education of the Copley newspapers, refers to does not necessarily represent a disease as medical science interprets it, yet

every physician as a private citizen might profit by reading Mr. Terry's letter; it is as follows:

"I am one of the Americans who heard Mr. Khrushchev tell our Nation that my great-grandchildren will grow up in a Communist world.

"For some time now this has bothered me.

"I am not a brave man—not even a big one.

"I suppose I would have to admit that I am, among my own neighbors and in my own culture, the typical, average, well-educated, genteel suburbanite to whom family, the mortgage, and security have been the all-important items.

"I am now 50, and soon my wife and I will see the first of our three children married.

"I paint my own house, repair my own car, grub my own devil grass, and nurse a modest savings account at the Bank of America. I am a law-abiding man on the quiet side, and dissension makes me terribly nervous. Frankly, I am the kind who simply doesn't have it in him to fight anyone ever.

"My wife had me cleaning out an old trunk in the storage room the other day, and I ran across the huge old family Bible that I hadn't thought about for years. My great-grandmother had kept a journal of the trip across the Great Plains with a wagon and oxen when she and great-grandpa were youngsters coming out to settle in California in the great migration. Great-grandma wrote about it as the wild, new land, rich and abundant in mythical proportions.

"On the trail she wrote of sickness and hunger, and heat and cold, and dust and thirst, and the deaths and births like beads strung together on a thread of hope of freedom and a land of plenty for their children yet unborn.

"And when she viewed the new land she wrote in simple word pictures of the cities and farms and schools, and happiness that would some day bloom in the greatness of



the vast new land. She wrote of her tomorrow and my today.

"The ink was badly faded, but the message was clear.

"As I read, I began to think about America and being an American and what it all stands for; and I thought about our enemies and what they intend to do to America, to those rich lands and farms, to the cities and the people, to its freedom and its hope.

"And, suddenly, I realized that I am a sick American. I mean really sick.

"I am sick of panaceas and of backing up.

"I am sick of reactions where there should be initiative.

"I am sick of bureaucrats who tell me that my enemy is not really my enemy, and that I should live together with murderers and tyrants.

"I am sick of government that hasn't the guts to clean traitors out of its own offices.

"And I'm sick of being a nice, patient guy about it. I am sick of placidly accepting excuses instead of successes; of being a silent gentleman for fear of controversy.

"I am sick of my country being ridiculed all over the world.

"I am sick of pink-livered politicians who place personal career above the fate of the flag.

"I am sick of 40 years of relentless, creeping, cancerous, communistic godlessness that never once has wavered from its avowed purpose of conquering that flag and seeing it trampled in the mud under Russian boots.

"I am sick of my genteel desire to stand pat and pray while the enemy advances.

"I am sick of educators who teach tolerance of subversion and of clergymen who would have me quail at the specter of battle and

turn my cheek in fear of what our enemies might do.

"In all honesty, the thing of which I am most sick is the man who let these things come to me: myself.

"And by the living God who made me, sir, I am a sick American who intends to get well."

## MEDICAL WRITING AWARD

To mark its 75th Anniversary this year, The W. B. Saunders Company, medical and scientific publishers, has announced the establishment of a \$15,000 medical writing award to provide financially for a year's leave of absence for an investigator who:

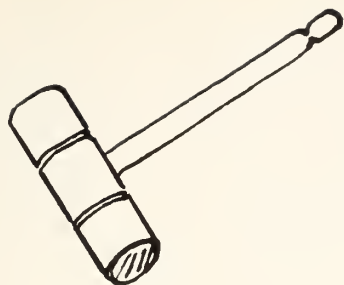
(1) Has been doing fruitful and significantly important biomedical laboratory research over the past several years.

(2) Would like to have time for thought and for preparation of his work in monographic form.

The recipient of the award will not have to agree to publish his monograph with the Saunders Company and will be free to write a book instead, or a series of journal articles reviewing his work.

Areas of research in the medical sciences and clinical medicine which are acceptable for award consideration are extremely broad with a preference for those which could be translated into clinical usefulness within the foreseeable future. The investigator should be a resident of the Americas; but he may be doing or have done his laboratory work outside of the Western Hemisphere.

Applications for the award may be submitted between January 1, 1963, and May 1, 1963, directly to Dr. Robert F. Loeb, care of W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa.



# President's Page



## FREEDOM--IS IT WORTH THE FIGHT?

World history abounds with stories of people and nations fighting for freedom. Some of the bitterest battles have been concerned with freedom of worship and freedom from excessive taxation.

Freedom is difficult to describe—poets have had lofty moments in describing their ideas about freedom. Much has been written about this nebulous yet mundane character called freedom, yet each one of you has your own idea of freedom and it probably varies from each decade of life.

A generation ago we heard our war president, Franklin Delano Roosevelt, address Congress, principally about the four freedoms. These freedoms were freedom of speech, freedom of worship, freedom from want, and freedom from fear; he stated there was nothing to fear but fear itself. Since that memorable speech, however, this nation has had great cause to fear the complete socialization of our government. Our so-called liberals, those who have completed their plans for a gigantic welfare state, have almost led our nation to the brink of disaster, bit by bit and step by step.

Freedom cannot be inherited nor can it be purchased. It has to be fought for on every front at all times. Freedom never stands still; it sways and bends, occasionally breaks, with every generation with which it comes in close contact.

Concerning inheritance—it is very easy to inherit a socialistic scheme or a social system which closely approximates the so-called modern welfare state.



*Mr. Dan Smoot, R.D.*

If this all powerful colossus, which we frequently refer to as our federal government, is not curbed in its steady approach (since 1933) toward paternalism, the remainder of our freedom will be usurped.

Dan Smoot, writing in "America's Promise" says, "The welfare state which modern liberals worship is not a twentieth century invention—it is the oldest, most reactionary kind of social organization." Then Mr. Smoot states, "The welfare state with the usual trappings of government-price-controls, government-fixed-minimum wages, subsidies, government relief for the poor, and government pensions—was tried out in ancient Babylon, ancient Greece and ancient Rome; in Mussolini's Italy and in Hitler's Germany and in all communist countries. It has always failed to provide economic security and has always ended in slavery."

## WHAT YOU CAN DO TO HELP PRESERVE FREEDOM

Consider the many ways in which a physician can help to maintain his freedom, not only in the practice of medicine but in every other facet of life.

Primarily, do not let a heavy patient load and financial success give you the "bighead"; maybe the physician-patient ratio is too low in your area.

Do not remain unmindful of your patients in matters of common interest, which should include prompt appointments, availability, and adequate physician coverage. Your attitude, as well as those of your office assistants, and the relieving physician's attitude and willingness to serve your patient are factors which influence physician-patient rapport. Your best public relations, if it is to be effective, must of necessity be carried out in your own office.

The intelligent, responsive, dedicated physician who desires to offer the highest quality of medical care realizes that this can be done only under the system wherein a patient is free to choose his own physician and hospital. This freedom, which many of us are fighting for, can only be maintained if voluntary health care insurance is successful. *Sabotage or overutilization* must be effectively guarded against by every practitioner of the healing arts.

AMPAC is still another stroke for freedom. It has been instituted by physicians interested in thwarting the socialization of medicine. AMPAC is effective because it is a voluntary movement dedicated to supporting candidates for elective office who share our philosophical and socio-economic ideals.

The Kerr-Mills Bill is an example of the state and the federal government's participating financially to give certain medical and hospital benefits to those over 65 on the welfare rolls (OAA) and to those over 65 who are unable to take care of their own health care bills (MAA). It is voluntary and the participants are classified at the local level. Your support of the Kerr-Mills program is an obligation on behalf of freedom.

## THE ART OF MEDICINE

The effective management of your patient should be looked upon as having two intermeshing components: the art of medicine and the science of medicine. It should be obvious that knowledge of the scientific aspects without the art of clinical medicine is inadequate, just as the opposite is true.

The everlasting pressure on the physician to master the complexities of modern scientific knowledge has resulted in a failure to focus sufficient attention on the art of medicine, which is very desirable if maximum therapeutic standards are to prevail.

This presents a challenge and an obligation to those under your care, to your colleagues in the medical profession, to your own moral and ethical code.

## READ THE HIPPOCRATIC OATH—AGAIN

Hippocrates was born on the isle of Cos in the year 460 B. C. He was a descendant of Hercules as well as Aesculapius.

The Hippocratic Oath was written over 2000 years ago; and the philosophies expressed then are just as true today, with a few minor exceptions. In essence, the oath represents or is indicative of the idealism in medicine, but it is being put to a severe test in this world with rapidly advancing scientific realism. It probably is wishful thinking to expect physicians to reach the high ideals for which our profession strives; but regardless of the changing philosophies, particularly in the socio-economic field, our people and our government must make a determined effort to maintain the high moral and ethical codes exhorted by Hippocrates in the fifth century B. C.

Abide by the Golden Rule (Christ's Sermon on the Mount, St. Matthew 7:12):

"THEREFORE ALL THINGS WHATSOEVER YE WOULD THAT MEN SHOULD DO TO YOU, DO YE EVEN SO TO THEM: FOR THIS IS THE LAW AND THE PROPHETS."





## ASSOCIATION FORUM

### GROWTH

DR. RAYMOND J. SAULNIER

There is a theory that economic growth is governed largely by the rate of spending on capital goods. It is possible to overdo this theory, as it is possible to overdo any theory, but I think no one would deny that the expansion of our base of physical capital is an essential condition for the achievement of rapid growth.

If this is the case, then we must concede that we have done very badly in recent years. In a period in which spending on capital goods in foreign industrial economies, in terms of constant dollars, has been going ahead by leaps and bounds, capital goods spending in our own economy has actually failed to increase at all. In the years 1953-59 the constant dollar amount of capital goods spending rose anywhere from 30 to 80 per cent in most Western European countries; in sharp contrast, there was actually a small decline in the United States. Nowadays we are installing annually a smaller volume of physical facilities than we were 5 years ago. Obviously, there is no dynamism here. We are not even holding our own. Why is this so?

Volume of capital goods spending does not depend exclusively on the level of corporate profits. But profits are an important element, probably the major element, in determining the level of capital goods spending. Is it not important, then, that while wage payments, production, and sales have been rising, corporate profits have remained

roughly unchanged? Corporate profits in 1961 were only very little larger, before taxes, than they were in 1955, 6 years earlier; and corporate profits after taxes were actually lower. And this is in current, not constant, dollars.

If this profit deflation, and that is what it is, is to be corrected, we must understand its causes. If I were to state the cause in one sentence, I would say that the squeeze on business profits results from the fact that, whereas price inflation has, for the moment at least, been largely checked, cost inflation continues.

How can we escape from this condition? Surely an escape cannot be found in a resumption of price inflation. Few people would prescribe this. There are some still unreconciled to price stability as an essential condition to the achievement of sustainable economic growth, but inflation is such a thoroughly disreputable idea nowadays that the remaining inflationists are largely silent. They have been silenced, if not entirely persuaded, by the deficit in our balance of payments. Circumstances have checked price inflation, but we have not succeeded in stopping cost inflation and therein lies the rub, or the squeeze, or whatever you want to call it.

There are a number of avenues by which we must approach the task of easing this squeeze. Businessmen will find that one way to do it is by practicing complete economy in managing the affairs of their businesses. We shall also have to do that as a nation. We

Dr. Saulnier is professor of economics at Barnard College, Columbia University, New York, New York.

must remember that the cost of government, Federal, State, and local, is to a very large extent borne by American business as a business cost. And it is a rising cost. Governmental expenditures, at the State and local as well as Federal level, should be reexamined, those expenditures that are not essential should be eliminated, and all economies, dollar for dollar, should be passed on as reductions in business taxes.

There are other avenues to a solution of the problem of cost inflation. One of these is to stabilize, or better still to reduce, unit production costs by achieving a better relationship between advances in wages and improvements in productivity.

The President's Council of Economic Advisers has advanced a general guideline on this matter in which they stated that wage advances, on the average, should equal productivity improvements, on the average. This guideline is inadequate in the present situation. If we agree that there has been a lag in profits, then the guideline should provide for a catchup in profits. Wage increases that will use up labor's full proportionate amount of productivity improvements, which is what the guidelines call for, will leave profits where they are relative to everything else. The need is to improve the relative position of profits. Consequently, what would be best for our economy at this time would be wage advances that are actually less than the improvements in productivity. This would reverse the trend in cost-price relationships that has been suppressing business profits and stifling investment expenditures. It would give profits a chance to catch up. It would also provide opportunities for price reductions which would be enormously helpful in strengthening our international competitive capability, and thus in eliminating our balance of payments deficit. A revision of the guidelines to this end is urgently needed.

In addition to a redefinition of the wage guideline, there are other things that Government can do to help prevent cost inflation.

For one thing, the Federal Government is

the largest single employer in the United States. More than 2 million persons are employed by the Federal Government in civilian jobs and around 6 million by State and local governments. This means that about 1 out of every 6 persons in the United States employed in a nonfarm job works for government. Obviously an important influence could be brought to bear on the cost structure of our economy if Federal, State, and local governments were to adhere to wage and salary policies consistent with a proper guideline principle.

Second, the Federal Government is an enormous indirect user of labor services through the procurement of supplies and in its contracting for construction. It has been alleged time and again that the pace of cost advances in some regions, such as the west coast, where Government procurement is the major element in the economy, is set by the wages paid by Government contractors and subcontractors. Would it not be possible for the Federal Government, through its procurement agencies, to exercise restraints on cost that are consistent with those it wishes to have exercised by the business community generally? Certainly, it would be a grievous inconsistency if the Federal Government, through its procurement agencies, were to underwrite increases in cost that are inconsistent with its own guidelines.

Third, consideration should be given to the impact on production costs of the determination of prevailing wages under the Davis-Bacon and Walsh-Healey Acts. Under these laws, the Federal Government sets what are in effect minimum wages for labor performed in a great variety of employments. And these minimum wages are well above the level of the minimum wage with which we are most familiar; namely, that which is set under the Fair Labor Standards Act. The Federal Government should have its own guidelines in mind when it sets minimum wages to be adhered to by its contractors.

We cannot get our economy moving unless we restore some dynamism to business profits.



## FACULTY PROMOTIONS

A major reorganizational program has been carried out at the Medical College of Alabama since Dr. S. Richardson Hill, Jr. became dean of the college.

Dr. Margaret Klapper has been appointed assistant dean for students. Dr. Klapper previously served as associate professor of medicine and clinical dentistry.

Dr. Emmett B. Carmichael, former assistant dean, has been named as dean of the Medical and Dental College for external relations and special functions. His duties will include the supervision of publication of a Medical Center bulletin (including scientific articles) and the directorship of Medical College alumni affairs.

Dr. Bruce Sullivan, who was recently promoted to associate professor of surgery, is now assistant dean of clinical affairs.

Dr. John Bruhn, professor and chairman of the department of physiology, will continue to serve as chairman of the Committee on Admissions.

Mrs. Kay Morgan retains her position as assistant to the dean of the Medical College.

Two chiefs of staff of University Hospital and Hillman Clinic have been announced. They are Dr. Champ Lyons, chief of staff of the division of surgical services, and Dr. Walter B. Frommeyer, Jr., chief of staff of the division of medical services.

Dr. Lyons will continue to occupy the position of professor and chairman of the department of surgery and surgeon-in-chief for the University Hospital.

Dr. Frommeyer will also continue as professor and chairman of the department of medicine and physician-in-chief for University Hospital.

The division of medical services, in this reorganization plan, now includes the department of medicine, embracing the following sections: cardiovascular, metabolism and endocrinology, pulmonary, hematology, rheumatology, gastroenterology, renal-electrolyte, and neurology. It also includes the departments of psychiatry, dermatology, pathology, pediatrics, and preventive medicine.

The division of surgery includes the department of surgery and is composed of the following sections: cardiovascular, general surgery, thoracic surgery, urology, neurosurgery, plastic surgery, oral surgery, and proctology. And in this division are the departments of obstetrics and gynecology, ophthalmology, orthopedics, otorhinolaryngology, anesthesia and radiology.

In the department of surgery, Dr. Sterling Edwards, Jr. has been appointed full professor and chief of the section of cardiovascular surgery. Dr. Thomas B. Patton has been made a full professor and chief of the section of general surgery.



Dr. Sheridan W. Shirley was promoted to associate professor and chief of the section of urology.

Dr. Merrill Bradley was named assistant professor and chief of the section of thoracic surgery.

Named as assistant to Dr. Edwards and assistant professor is Dr. Richard Shepard who will also continue to serve as director of clinic activities in Hillman Emergency Clinic.

The department of medicine has appointed eight new instructors of medicine. They are Dr. H. Walker Brown, Dr. Hugh H. Dempsy, Dr. Carlos Gaos, Dr. Gorazd C. Luketic, Dr. Joe R. Norman, III, Dr. Richard O. Russell, Jr., Dr. T. L. Thomas Sheffield, and Dr. John A. M. Henderson.

Dr. Buris R. Boshell has assumed the post of chief of medical services of the Birmingham Veterans Administration Hospital. He replaces Dr. Elvia E. Eddleman who has been promoted to the position of associate chief of staff for research at the V. A. Hospital.

Dr. Norman L. Lawrence has been promoted to associate professor of microbiology. He was formerly assistant professor.

Dr. Harold Schnitzlein, formerly assistant professor of anatomy, is now associate professor.

Dr. Charles Alford, Jr., has been promoted from instructor in pediatrics to assistant professor.

Dr. Elmar Lawaczeck has been appointed professor in the department of ophthalmology.

Dr. Charles Lupton, professor and chairman of the department of pathology, has announced the following promotions: Dr. Robert B. Adams has been promoted to assistant professor of pathology from the position of instructor. Dr. Edward P. Maroun, formerly instructor, has been made an assistant professor. Dr. Abraham L. Siegel, formerly assistant professor, is now associate professor. Dr. Marshall W. Hartley has been promoted from instructor to assistant professor.

## VITAMIN C DEFICIENCY

A simple, inexpensive test to determine vitamin C deficiency has been developed, mainly through the efforts of a University of Alabama Medical Center research team.

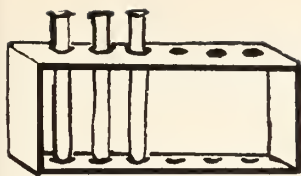
It is generally agreed that the disease scurvy, caused by extreme lack of vitamin C, is now rare. However, marginal degrees of vitamin C deficiency probably exist; and these subtle problems cannot be detected by present clinical examinations. Methods for determining this lack are cumbersome, expensive, and difficult to obtain, involving blood and urine tests.

In the opinion of some experts, the elusive vitamin lack can be manifested by a range of symptoms, such as fatigue, unusual bruise marks on the body, or bleeding gums.

The University's oral medicine department, under the direction of Dr. E. Cheraskin, professor and chairman, and Dr. William Ringsdorf, Jr., assistant professor, has devised a test which can determine, in seconds, the vitamin C status. It involves the placing of a small quantity of dye on the patient's tongue and timing the disappearance of the dye with a stop watch. The amount of vitamin C in the body regulates the rapidity with which the dye decolorizes. Thus the more quickly the dye vanishes, the more vitamin C there is in the body.

Slow disappearance of the dye indicates a vitamin C lack. This may be the result of slow consumption, defective absorption or utilization by bodily processes, or an increased loss of the vitamin.

This method, which costs pennies to use, may prove to be a new diagnostic tool for physicians and dentists; it could pave the way for routine testing for a vitamin C deficiency.



# STATE DEPARTMENT OF HEALTH

## PUBLIC HEALTH EDUCATION IN ALABAMA

by

FOREST E. LUDDEN, Director

Division of Health Education and Information  
Alabama Department of Public Health

Recently the Alabama Department of Public Health began broadening its health education program in the state. It appeared evident that a need for expanded services in this discipline would assist people to achieve health by their own actions and efforts if they could be motivated to do so. Stated briefly, health education attempts to bridge the gap between what is known to physicians and scientists and what is applied to the lives of the people.

There are two main purposes which health education attempts to achieve. The first is the attempt to make health a valued community asset, and the second is the attempt to promote the development and proper use of health services. It is believed that these purposes are achieved when there is community action and community education toward the ever present health problems that face the individual. Suffice it to say that changes must take place in the individual by way of positive attitudes and behavior and not by pure knowledge alone.

Thus the aims and purposes of a state division of health education are clear. The scope includes the home, the community, and the schools.

Present activities of this Division include the maintenance of a health film library with an average of 2,200 films per year being sent

out within the state on request. An extensive library is maintained for the Board of Health. Editorial responsibilities for the State Health Department's annual report and bulletins are prepared in this division. Art work and all illustrative materials for the Bureaus and Divisions are prepared. Over 2000 individual requests for health information are answered each year. All publicity, including news releases, spot announcements, and radio scripts, are the responsibility of the Division of Health Education. Screening of new educational materials, such as pamphlets and audio-visual aids, are evaluated by the Division Director.

From the activities stated briefly above, it is clear that programs are confined to central operations.

At the present time there are but two health educators on the state level assuming the duties in a health education program. If the State of Alabama and its responsible citizens believe that community health action and community health education is one of the keys to the attainment of optimum health, then they may be receptive to a broader health education program, adequately staffed and financed, which will reach everyone and have a marked effect on attitudes and behavior. Public health is not an expense in the end but an investment designed to add to the wealth of the state.

# DEPARTMENT OF HEALTH

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

November 1962

Examinations for malaria .....	8
Examinations for diphtheria bacilli and Vincent's .....	335
Agglutination tests .....	398
Typhoid cultures (blood, feces and urine) ..	283
Brucella cultures .....	1
Examinations for intestinal parasites .....	1,933
Darkfield examinations .....	4
Serologic tests for syphilis (blood and spinal fluid) .....	23,282
Examinations for gonococci .....	1,569
Complement fixation tests .....	79
Examinations for tubercle bacilli .....	3,324
Examinations for Negri bodies (smears & animal inoculations) .....	191
Water examinations .....	2,136
Milk and dairy products examinations .....	4,168
Miscellaneous examinations .....	8,832
<b>Total .....</b>	<b>46,548</b>

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## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

### CURRENT MORBIDITY STATISTICS

1962

	Oct.	Nov.	*E. E. Nov.
Tuberculosis .....	132	98	154
Syphilis .....	108	94	125
Gonorrhea .....	350	287	275
Chancroid .....	4	2	3
Typhoid fever .....	0	1	3
Undulant fever .....	0	0	0
Amebic dysentery .....	6	3	1
Scarlet fever and strep. throat .....	58	94	76
Diphtheria .....	9	2	13
Whooping cough .....	12	10	40
Meningitis .....	5	3	10
Tularemia .....	0	0	0
Tetanus .....	3	1	2
Poliomyelitis .....	0	0	8
Encephalitis .....	0	0	1
Smallpox .....	0	0	0
Measles .....	9	14	45
Chickenpox .....	1	11	37
Mumps .....	11	17	40
Infectious hepatitis .....	56	97	24
Typhus Fever .....	0	0	0
Malaria .....	0	0	0
Cancer .....	592	677	452
Pellagra .....	2	2	0
Rheumatic fever .....	14	15	11
Rheumatic heart .....	20	34	21
Influenza .....	36	83	136
Pneumonia .....	131	136	170
Rabies—Human cases .....	0	0	0
Pos. animal heads .....	2	0	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF VITAL STATISTICS

### PROVISIONAL BIRTH AND DEATH STATISTICS AND COMPARATIVE DATA, OCTOBER 1962

Ralph W. Roberts, M. S., Director

Live Births Deaths Causes of Death	Number Registered During October 1962			Rates* (Annual Basis)		
	Total	White	Non- White	1962	1961	1960
Live Births .....	6,759	4,301	2,458	23.8	24.8	26.3
Deaths .....	2,507	1,655	852	8.8	8.9	8.3
Fetal Deaths .....	132	49	83	19.2	19.0	21.0
Infant Deaths—						
under one month .....	148	83	65	21.9	20.5	19.9
under one year .....	194	96	98	28.7	30.7	29.9
Maternal Deaths .....	3	2	1	4.4	7.0	6.7
<b>Causes of Death</b>						
Tuberculosis, 001-019 .....	22	9	13	7.8	8.9	6.5
Syphilis, 020-029 .....	3	1	2	1.1	1.8	1.4
Dysentery, 045-048 .....	1		1	0.4	0.4	0.7
Diphtheria, 055 .....						0.4
Whooping cough, 056 .....						0.4
Meningococcal infec- tions, 057 .....	1		1	0.4		0.7
Poliomyelitis, 080, 081 .....						0.4
Measles, 085 .....						
Malignant neoplasms, 140-205 .....	370	268	102	130.5	110.8	111.1
Diabetes mellitus, 260 .....	29	16	13	10.2	16.0	12.6
Pellagra, 281 .....	1		1	0.4		
Vascular lesions of central nervous sys- tem, 330-334 .....	342	216	126	120.6	124.7	114.0
Rheumatic fever, 400-402 .....	3	2	1	1.1	1.1	0.4
Diseases of the heart, 410-443 .....	827	594	233	291.6	303.5	260.5
Hypertension with heart disease, 440-443 .....	123	55	68	43.4	47.4	7.6
Diseases of the ar- teries, 450-456 .....	48	36	12	16.9	24.9	15.9
Influenza, 480-483 .....	4	3	1	1.4	1.1	1.4
Pneumonia, all forms, 490-493 .....	54	27	27	19.0	22.1	23.4
Bronchitis, 500-502 .....	3	3		1.1	0.4	2.2
Appendicitis, 550-553 .....	2	2		0.7	1.4	0.4
Intestinal obstruction and hernia, 560, 561, 570 .....	19	15	4	6.7	2.5	3.6
Gastro-enteritis and colitis, under 2, 571, 0, 764 .....	11	2	9	3.9	6.1	6.5
Cirrhosis of liver, 581 .....	20	14	6	7.0	5.3	8.3
Diseases of pregnancy and childbirth, 640- 689 .....	3	2	1	4.4	7.0	6.7
Congenital malforma- tions, 750-759 .....	42	28	14	6.2	5.2	5.4
Immaturity at birth, 774-776 .....	55	31	24	8.1	6.3	5.5
Accidents, total, 800-962 .....	175	121	54	61.7	63.8	58.1
Motor vehicle acci- dents, 810-835, 960 .....	103	79	24	36.3	35.3	31.4
All other defined causes .....	349	220	129	123.1	131.8	131.0
Ill-defined and un- known causes, 780- 793, 795 .....	124	46	78	43.7	37.4	36.4

\*Rates: Birth and death—per 1,000 population

Infant deaths—per 1,000 live births

Fetal deaths—per 1,000 deliveries

Maternal deaths—per 10,000 deliveries

Deaths from specified causes—per 100,000 population



# *The Woman's Auxiliary*



MRS. JOHN KIMMEY

Another month is gone. We hope the holiday season was happy for everyone. Only four months remain in our Auxiliary year. We feel a sense of urgency—so much to be done in so little time.

The Northwest District meeting in Decatur was outstanding. It was directed by Mrs. Francis Nicholson, District Vice President, who presided with charm and efficiency. Hostesses were the Morgan County Auxiliary and its able president, Mrs. E. J. Phillips.

Dr. E. E. Camp, Huntsville, Board Member of ALAPAC (Alabama Political Action Committee), was the speaker. He discussed the aims and purposes of AMPAC and ALAPAC and emphasized the importance of doctors' and their wives' taking a steady, non-partisan interest in all phases of government as it affects public welfare. Such interest can refute the claim that we only become active when our privilege or pocketbook are involved. Dr. Camp urged every Auxiliary member to become an active member in AMPAC and ALAPAC and to encourage her husband to join.

A number of state chairmen were present. Each gave a short report of her committee activities. Mrs. W. R. Sutton, president-elect, reported on membership and a short talk was given by the president. In a lighter vein we were entertained by a guessing game arranged by Mrs. Wm. A. Cunningham. The problem was to guess which three of six ladies were wearing wigs. The meeting will be long remembered by the large group in attendance.

To your president, each day has brought added rewards for her year of service. With so many capable and interested members, we will not fail to do our part in carrying out the theme chosen by the national president, Mrs. Wm. G. Thuss, "Aim for Excellence in Achievement."

*Ida Kimmey*

President

# OBITUARIES

ABBOT—Charles E. Abbott, Jr., a native of Tuscaloosa, died at Druid City Hospital in Tuscaloosa on September 20, 1962, at the age of 64.

Dr. Abbott, who specialized in pediatrics and internal medicine, attended the University of Alabama and received his medical degree from Tulane University School of Medicine in 1922.

He served as chief of staff in pediatrics at Lloyd Noland Hospital in Fairfield until 1923 when he returned to Tuscaloosa to enter private practice.

Dr. Abbott was a member of the American Academy of Pediatrics and was president of the Alabama Academy of Pediatrics in 1935. He was also a member of the American Medical Association, Medical Association of the State of Alabama, and the Alabama Academy of General Practice. He was a past president of the Tuscaloosa County Medical Society and served as chairman of the local society's Board of Censors for ten years.

Dr. Abbott served in the U. S. Navy during World War I and was a lieutenant colonel in the Army Air Force during World War II.

Survivors include his wife, Mrs. Frances Boone Abbott of Tuscaloosa; a daughter, Mrs. Mark Mathis of Cedar Rapids; two sons, the Rev. Joseph Boone Abbott of Winston-Salem and Charles Abbott, III, of Tuscaloosa; a sister, Mrs. Anne Ella Thomas of Tuscaloosa; an aunt, Mrs. Laura Alford of Tuscaloosa, and five grandchildren.

HUBBARD, Lex Walter Hubbard, a native of Shuqualak, Mississippi, died on November 5, 1962, at the age of 72.

Dr. Hubbard received his premedical training at the University of Mississippi and was graduated from the Jefferson Medical College in Philadelphia.

He interned at St. Vincent's Hospital, Birmingham, Alabama.

Dr. Hubbard helped organize Norwood Hospital, Tarrant City Savings Bank, the Tarrant school system, Tarrant Library, and the Tarrant Commercial Club.

After his retirement in 1960, he was presented a 50 year service certificate by the Medical Association of the State of Alabama.

Dr. Hubbard held membership in the Jefferson County Medical Society, the Medical Association of the State of Alabama, and the American Medical Association.

Survivors include the widow; two sons, Lex W. Hubbard, Jr., Los Angeles, and Perry Hubbard, Tuscaloosa; two sisters, Mrs. A. M. Tynes, Birmingham, and Mrs. C. T. Kirk, Louisville, Mississippi.

WILKINSON—David Leonidas Wilkinson, a native of Autaugaville, died in Tuscaloosa on August 23, 1962, at the age of 89.

Dr. Wilkinson attended the University of Alabama and received his B. A. degree from Birmingham-Southern College. He received his M. D. degree from Tulane University School of Medicine and did postgraduate work at Bellevue Hospital in New York City.

Dr. Wilkinson was appointed by former Governor W. D. Jelks to the International Tuberculosis Association during Theodore Roosevelt's tenure as president of the United States.

He was a member of the Jefferson County Medical Society and the Medical Association of the State of Alabama. He was a recipient of the Association's Fifty Year Service Plaque. He was also a member of the American Medical Association.

He is survived by three daughters, Mrs. George Shook of Tuscaloosa, Mrs. W. R. Wilkinson of Sarasota, Florida, and Mrs. Troy B. Sizemore of Birmingham; a son, F. A. Wilkinson of Pensacola; and four grandchildren.

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## The Neglected Nasal Fracture

BRUCE F. HOLDING, JR., M. D.

Montgomery, Alabama

### General Considerations

The nose, because of its exposed position, is one of the most frequently fractured elements of the entire maxillofacial region.<sup>1</sup> In general, it is also one of the most neglected of all fractures in this area. This is true because many of the "minor" nasal fractures

are overlooked, or it appears so trivial at the time of the injury that little or no correction seems indicated.<sup>2</sup> The more complicated forms of nasal injury are often associated with multiple body trauma and adequate nasal therapy must await the correction of more serious problems. The nose is also frequently neglected when the full extent of the injury is not accurately determined. In some instances, nasal trauma is so lightly regarded that blind manipulation of the nasal bones is considered adequate for most fractures.

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Dr. Holding received his medical degree from the Medical College of Alabama and took his internship at Beverly General Hospital in Beverly, Massachusetts. He served his residency at the Eye, Ear, Nose & Throat Hospital in New Orleans, Louisiana, and at the University of Texas Southwestern Medical School in Dallas. He is engaged in the practice of otolaryngology, and cervicofacial surgery in Montgomery, Alabama.

Quick reference to the components of the nasal complex shows that the nasal bones per se are only one of its many integral





Fig. 1.—The External Nasal Pyramid (reprinted from *Plastic Surgery of the Nose*, through the courtesy of the author, Albert P. Seltzer, M. D., and the publisher, J. B. Lippincott Company).

parts (Fig. 1). The external bony nasal pyramid involves the maxillary processes, the frontal bone, the adjacent orbital and ethmoidal complexes, as well as the nasal bones. It is also apparent that the greater proportion of the nasal contour is fashioned by the nasal cartilages and its overlying soft tissue.

In the correction of nasal trauma, the septum with both its bony and cartilaginous components, is by far the most severely neglected of all the associated nasal structures. This is undoubtedly so, because the nasal septum is not amenable to the usual methods of inspection and palpation, but requires careful intranasal scrutiny. Septal disorders are responsible for the largest percentage of post traumatic nasal morbidity. Nasal obstruction and cosmetic deformities comprise the majority of symptoms following nasal trauma.

Nasal injuries have numerous characteristics that necessitate individualization in their treatment. All varieties of nasal fractures are encountered, and for that reason classification is often more confusing than practical. Fractures of the bony components are usually compounded internally. The fusion of the nasal mucous membrane to the underlying

bone (mucoperiosteum) is the reason seemingly trivial malalignment can cause serious distortion to the respiratory current as it passes beneath the dorsal arch. Fractures of the nose are invariably due to direct force, and as a result the fragments are usually overriding, impacted, or severely comminuted.<sup>3</sup>

The nasal cartilages, including the septum, because of their inherent elasticity, are fortunately spared injury in many fractures. It is, however, the instances in which the cartilages are traumatized that serious sequelae plague the individual. The bony nasal complex is much more amenable to adequate reduction than is the cartilaginous skeleton. The cartilages likewise are more adversely affected by hematoma formation and inflammatory exudates (Fig. 2 and 3). Scar tissue contracture, inelastic deformities, chondritis, and fibrous degeneration are the frequent aftermaths of neglected cartilaginous trauma. Such distortions may make later corrective surgery less effective, whereas bony deformities lend themselves more readily to rhinoplastic techniques.

The bones of the nasal pyramid are of membranous origin. Healing, therefore, is not preceded by a cartilaginous phase but rather by the direct deposition of minerals from osteogenic centers. It is not unusual for union to occur by connective tissue formation or so called fibrous union. Cartilage, on the other hand, always heals by fibrous union. It is readily apparent, then, why cartilaginous injuries, although sometimes difficult to detect at the time of injury, are the most disastrous when neglected.

## Diagnosis

Inspection of the nasal complex sometimes shows an obvious depression or deviation; however, a major pitfall in such diagnosis is the obvious. Meticulous examination is required of the internal aspects to appreciate the extent of the externally applied traumatic force. Hematoma and edema formation often obscure the less obvious deformities. The nose



Fig. 2.—The picture on the left shows the results following attempted nasal reduction by immediate blind manipulation. The picture on the right shows the improvement after secondary surgical restoration.



Fig. 3.—The picture on the left represents the results of neglected trauma to the cartilaginous vault and the nasal septum. The picture on the right shows the results following corrective surgery.



may appear smoothly edematous when in fact a significant depression or deviation is present. This also makes adequate palpation impossible. Crepitus when present is of course a reliable sign, but the lack of it by no means excludes a significant fracture. Nasal fragments rather quickly become splinted by the surrounding edema and crepitus is often impossible to detect. Fracture without some degree of epistaxis is exceptional.

One should be especially careful in excluding fracture in children. The lack of ossification in the juvenile skeleton makes a "green stick" fracture the usual result, and crepitation is not present. Also, relatively "inconsequential" nasal fractures in children may in time assume major proportions as the facial structures continue their growth. In fact, significant deformities of the entire maxillofacial skeleton may result from the improper "stress and strain" of the malaligned nasal pyramid.

X-ray studies are useful, but sole reliance upon such a means of diagnosis is to be discouraged. Many different views have been advocated for better X-ray diagnosis, but approximately only 50 percent of nasal fractures are visible by this means.<sup>4,5</sup>

In evaluating nasal trauma, it is vital that any previous damage to the nose be assessed as accurately as possible. It is not infrequent that some patients, because of occupation or temperament, suffer repeated nasal trauma. Refracture of a previously distorted nose will alter the surgical approach to its correction in the majority of instances. It is also possible for old nasal fractures to be clearly visible on the X-ray for a variable period of months to years, and this may further perplex the diagnosis.

## The Time For Reduction

There has been much discussion and no little confusion concerning the ideal time for the reduction of a nasal fracture. It would seem logical to accomplish reduction as soon

as an accurate and exact diagnosis can be completed. This is in turn dependent on several factors. Immediate nasal hemorrhage is a deterrent to careful examination. Edema and hematoma formation often prevent immediate adequate palpation. The internal nose often refuses to constrict for examination due to serous and bloody effusions. At times pain prevents satisfactory examination. Usually it is possible to make an adequate diagnosis and accomplish nasal reduction by four to five days post trauma. Beyond a rather arbitrary period of six or seven days, perhaps two to three days less in children, fibroblastic proliferation and hematoma organization may seriously interfere with manipulation of the nasal fragments. Immediate reduction is feasible in a fair number of instances where edema is not excessive and where approximation of fragments can be appreciated by palpation, and when visualization of the overall nasal contour is not distorted. Successful local anesthesia is frequently impossible in the face of hemorrhage and edema, and delay may be warranted on this account.

## Methods of Treatment

The closed method of reduction is appropriate when it is reasoned that reduction and restoration of the bony and cartilaginous structures can be accomplished by manipulation of the fragments. The adoption of this method implies that the correct alignment once attained can be maintained by suitable splinting. Closure of external soft tissue wounds may be accomplished prior to such reduction, but in those instances where considerable manipulation of the fragments is anticipated, repair of external wounds should follow manipulation. Either the Ash or Walsham forceps are of great assistance in manipulation and often times aid in a smooth operative procedure. After bony reduction is complete, or nearly so, attention should be directed to the cartilaginous nasal vault and the septum. All hematomas should be evacuated and mucosal lacerations loosely approxi-



## NEGLECTED NASAL FRACTURE

mated. The nasal septum must then be realigned either by manipulation or by limited submucous resection. Frequently the bony reduction can be accomplished with relative ease whereas the septum defies such manipulation. Proper realignment of the septum is most important because it, to a large extent, determines the adequacy of the nasal airway postoperatively. The elastic septum, when it is malpositioned, also acts as a continuous force of traction on the remaining elements and will in time distort the most carefully aligned and splinted bony framework. The upper lateral cartilages are anatomically and functionally an integral part of the cartilaginous nasal septum. Proper positioning of these vital elements cannot hope to be attained until the septum is corrected. The author finds that more and more he is relying upon limited submucous resection performed in conjunction with closed reduction to be the most efficient means of restoring septal continuity (Fig. 4).

Closed reduction is usually adequate for "green stick" fractures of childhood. Incision and drainage of a septal hematoma is often necessary in children to prevent septal abscess and subsequent saddle nose deformity.

Open reduction of nasal fractures has attained more widespread popularity in recent years. In fact some operators advocate such a rhinoplastic approach in most instances. The author believes such a method should be employed with considerably more reservation, but it does have very definite advantages in given instances. In the severely comminuted fracture, where actual visualization of the fragments is necessary, open reduction is of course mandatory. In those instances where the upper and lower lateral cartilages are torn or eviscerated, open reduction is very advantageous. Also in those instances where recent trauma has been superimposed on a preexisting deformity,



Fig. 4—Comminuted fracture of the external pyramid and nasal septum. Surgical correction achieved by limited submucous resection and closed reduction. The picture on the left is preoperatively and the right is the postoperative result.

rhinoplastic procedures will be required to restore nasal configuration (Fig. 5).

Antibiotics are usually used in this type of trauma for several reasons. Although the facial area may receive gross contamination, it is well known that severe infections of this area are unusual because of the generous blood supply. When, however, one is seeking early restoration of nasal physiology, and frequently where cosmetic considerations are most important, antibiotics do decidedly decrease local tissue reactions and the time required for wound healing. There are many anti-inflammatory agents that have been advocated for use in this type trauma, but when there are no contraindications it would appear that short term, low dosage steroid administration is most efficacious. There seems to be no delayed wound healing or exacerbation of infection attributed to the judicious use of such preparations. In fact, in certain instances, steroids seem to enhance wound healing due to the reduction of edema and effusion. This in turn not only decreases the pain of such injuries, but also allows an

earlier removal of uncomfortable intranasal packing and, therefore, earlier restoration of normal respiration.

## Conclusions

Undesirable postoperative results and the necessity for secondary nasal surgery can be reduced if certain basic factors are adequately considered.

Careful examination of the external and internal nasal components will result in a more complete diagnosis and consequently better surgical reduction. X-ray is helpful in the diagnosis of nasal injury, but it should not be the only method employed. In given instances, nasal trauma must await the correction of more threatening circumstances. Reduction should be accomplished when the operator has as many factors in his favor as possible. To achieve such an advantage, the surgeon may have to arrest nasal hemorrhage, incise hematoma, repair soft tissue damage, and then wait. Wait for the edema to suffi-



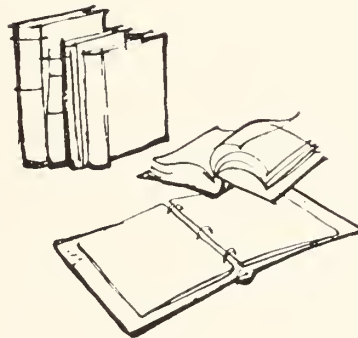
Fig. 5.—The picture on the left represents trauma inflicted on a congenitally malproportioned nose. Correction of trauma and preexisting deformity corrected by rhinoplasty is shown on the right.

ciently subside so that palpation and visualization will be of value at the time of surgery. The propagation of the mistaken concept that reduction of nasal fractures must be immediately accomplished has led to the popularity of the blind manipulation method. In fact, when faced with recent nasal trauma accompanied by its usual counterparts of hemorrhage and edema, no other procedure can be performed immediately, than to attempt some rearrangement by thrusting forceps into the nostrils. The results of such procedures are in a large percentage of instances dissatisfying to the physician and the patient as well. In general, the author believes that if the pressures of the emergency room can be avoided, all will be more

pleased with the final result obtained in the treatment of nasal trauma.

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## Robert Archibald Lambert

### Pathologist- Teacher-Physician

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Robert A. Lambert, who spent twenty years in medical education and research in four universities—Columbia, Yale, Sao Paulo and Puerto Rico—closed his distinguished career with an equal period as Associate Director of Medical Sciences of the Rockefeller Foundation.

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Dr. Carmichael is assistant dean of the Medical College and the School of Dentistry at the Medical College of Alabama. He received his B. A. and M. S. degrees from the University of Colorado, and his Ph. D. from University of Cincinnati. He has served as professor of biochemistry since 1932. He is author of some 100 articles on experimental medicine, and bibliographies of famous Alabama physicians.

Read at the thirty-ninth annual meeting of the Alabama Academy of Science, Troy, Alabama April 20, 1962.

Robert was born on a farm about seven miles from Lamison, Wilcox County, Alabama on October 3, 1883. He was the oldest child of Joe and Lily (George) Lambert. His paternal grand-parents, Andrew and Martha Lambert, came from North Carolina and Georgia when they were children. His maternal grandparents, Joseph and Rebecca George, were born in Alabama.

The family continued to live in Lamison until Robert was about seven years old. Then they moved to Catherine where he attended a one-room school. He prepared for college by attending the South Alabama Institute, Thomasville, Alabama, 1897-1900. He did his undergraduate work at Howard College, Birmingham, Alabama, receiving the B.A. degree in 1902. He continued on at the same

institution and earned the M.A. degree in 1903. Robert taught in the Anniston school system during 1903-04, while he was considering his future career. During that time he decided to enter the medical profession.

For his medical education, he selected Tulane University School of Medicine, New Orleans, where he enrolled on October 20, 1904 and graduated on May 8, 1907. Tulane School of Medicine offered a three year course at that time. After two years of postgraduate study in pathology at Johns Hopkins University, he joined Columbia University as Assistant Pathologist in 1909. In 1911 he was elevated to Associate Pathologist, a position he held until 1917. Then during World War I, 1917-18, he served as Acting Head of the Department of Pathology, Columbia University.

Dr. Lambert interrupted his academic career in 1916-17 in order to go as medical officer with the Rice Scientific Expedition to the Amazon regions of Brazil and again in 1919-1920, when he was the Director of Laboratories for the Near East Relief Mission in Syria and Turkey.

He was invited to join the faculty of the School of Medicine, Yale University, in 1919 as Assistant Professor of Pathology and after four years was appointed Professor of Pathology and Anatomy, Faculdade de Medicina de Sao Paulo, Brazil, 1923-25. The Rockefeller Foundation sponsored this position. He served as Professor of Pathology and Director of the School of Tropical Medicine, University of Puerto Rico, under the auspices of Columbia University 1926-29.

He joined the Rockefeller Foundation as Associate Director for the Medical Sciences in 1928, a position he held until his retirement twenty years later in 1948. His association with the Rockefeller Foundation actually dates from the summer of 1922, when he, under Foundation sponsorship, went to lecture on pathology at the University of Salvador and to survey medical education in Central America.

His vast store of technical experience and knowledge was soon recruited again following his retirement when he became consultant for the Pan-American Sanitary Bureau Regional Office of the World Health Organization in Washington. This position required his presence in Washington, D.C. during alternate fortnightly periods during the next three years.

Early in his medical experiences, he became interested in furthering the education of Negroes and accepted an appointment on the Interim Committee of Meharry Medical College, Nashville for 1951-52. Eventually, he became acting president, vice-chairman of the Board of Trustees and finally chairman. Under his leadership, the Methodist support of the institution was augmented, the faculty and other personnel reorganized and in 1953, Dr. Lambert saw his efforts come to full fruition when Dr. H. D. West was installed as the first Negro president in impressive ceremonies attended by representatives of the nation's educational institutions.

Hardly had Dr. Lambert returned to his home in Greensboro, when he was named to the Southern Regional Education Board, a body that seeks to facilitate the education of southern students by assisting in their education in neighboring states when courses are not available in their local colleges.

Since his travels and position took him to many countries, it became necessary that he learn several languages. Actually, he became quite a linguist. He spoke and taught in French, Portuguese and Spanish. He had a reading knowledge of German, Greek and Italian.

One of his most important contributions was his untiring effort to help youth and this was without regard to race, creed or color. There were many young men from all over the world with whom he shared his store of knowledge and his unusual ability of counsel and advice. During the last few years of his life he did have four young men

who kept in constant touch for advice, guidance and material help. His mind was keen so he never lost interest in young people and the number was limited only because he was not physically able to keep up with all of his contacts.

He received many citations and honors which were a great source of satisfaction to him. The French Government conferred the Decoration of Chevalier de la Legion d'Honneur. He received the Nomination to the Methodist Hall of Fame in Philanthropy and an appointment as *Academico Honorario*, University of Salvador. He was awarded the Dr. Honoris Cause by the University of Sao Paulo, Brazil and the L.L.D. degree by Tulane University in 1949. He was a member of the Board of Visitors of Tulane University from 1953-56.

Dr. Lambert was honored by membership in many scientific and learned societies. He was not just a dues paying member but took an active part in their proceedings and held office in several organizations.

He had many hobbies. One of these was his music. He was almost good enough to be a professional pianist and kept two grand pianos in his apartment while he was associated with the Rockefeller Foundation. He did take lessons at an early age and his parents thoroughly enjoyed his music. When he retired to Fairhope, he purchased a third grand piano and continued to play it regularly. The day he passed away he spent more than two hours playing his favorite music.

Another hobby which was of considerable interest was rugs: both hand woven orientals as well as domestic items. He studied them for both design and texture and was somewhat of an authority in the area. Yet another hobby was collecting "bone dishes" from England, France, and in fact from all over the world. Some two-hundred or more were in his collection. Not all of them were beautiful china but interesting.

Since he had an apartment in New York, he found it interesting to cook meals and

especially to prepare tempting dishes to entertain his friends. He was an authority on foods and was an excellent cook.

His father owned a large stock farm near Catherine and Robert loved to help with the farming. Since the farm was near the school, he helped during the school year, and during vacations while he was attending college. His relationship with his father was very close not only when he was a young man but also up to the time of his father's death on June 7, 1943. Neither of Robert's parents were college trained but both were well educated and ambitious for their children. His mother had been a school teacher before she married Joe. In addition to rearing their children in a cultural, Christian home, they sent all four children to college and all of them graduated.

Dr. Lambert died following a heart attack on November 20, 1960 a few weeks after his seventy-seventh birthday. His three sisters, Mrs. Robert Foster, Mrs. Hugh Lawhon and Mrs. E. W. Sledge survive as do nieces, nephews and other relatives.

The citation read at the Conferring of the Doctor of Laws degree on Dr. Robert Archibald Lambert by Tulane University on June 1, 1949, summarizes many facets of his activities:

"Renowned in this country and abroad as a leading authority and teacher in the fields of Pathology and Tropical Medicine, an honored member and sometime officer of numerous American and foreign scientific societies, this Tulane alumnus has made many important contributions to the fund of medical knowledge, has become an unsurpassed authority on medical standards, facilities, and disciplines throughout the world, has generously encouraged and assisted countless deserving medical students, and as the Rockefeller Foundation's Associate Director of Medical Sciences for the past twenty years has been a major influence in the improvement of medical education in our time."



# Some Aspects of Viral Hepatitis

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In any discussion of a specific disease, it would seem appropriate to define the illness in question. This is relatively easily accomplished with almost every infectious illness, however, it has proven singularly difficult to develop a satisfactory definition of viral hepatitis. Perhaps the best available definition states that viral hepatitis consists of those forms of hepatitis caused by two or more hepatotropic, filtrable infectious agents, not yet identifiable by specific serologic methods, which produce systemic disease in man accompanied often, but not always, by a characteristic type of liver injury. Thus hepatitis as an etiologic entity is definitively recognizable only by its effects on the liver, a problem complicated by the fact that many individuals infected by the hepatitis viruses

show no clinically evident manifestations of liver damage. Therefore, from a public health standpoint, we may on occasion be faced with a fairly large number of individuals who are suspected of having this disease, but in whom the final proof is lacking.<sup>1</sup> Outbreaks have been described where the largest proportion of the afflicted adult population demonstrated primarily gastrointestinal symptoms and children showed respiratory symptomatology, only the minority had specific signs pointing to liver disease. This is a point one must remember when one is faced with an epidemic of an ill-defined, febrile disease affecting all ages but most severely the adult, and whose clinical signs are those of an acute gastrointestinal upset. An epidemic of this type assumes particular significance if it occurs at a time when there are occasional cases of frank icteric hepatitis in the community.

How can one sharpen one's suspicions and diagnose infection with one of the hepatitis agents in the absence of readily apparent liver involvement. Experience has indicated that these diseases follow a reasonably specific pattern, producing symptoms and signs in adults that are sufficiently unique to per-

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Dr. Eichenwald received his medical degree from Cornell University Medical College and is professor of pediatrics at his alma mater.

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mit diagnosis with a high degree of accuracy, even in the absence of any complicated laboratory procedures.<sup>1</sup> In children, the mild, anicteric illness is too variable to offer any concrete leads pointing to the diagnosis.

Let us then discuss the typical non-icteric disease in the adult. If the illness in question is infectious hepatitis, the patient will usually give a history of having felt excessively fatigued for a period of about a week. Then, he will rather abruptly spike a temperature reaching as high as 103 degrees, often accompanied by chilly sensations and rarely by a frank chill. Aside from mild scratchiness of the throat and occasional cervical adenopathy, he will not demonstrate symptoms or signs referable to the respiratory tract. Shortly after the temperature elevation was first noted, the patient, if he is a smoker, will lose the urge to smoke, and will almost invariably stop this habit entirely. In addition, if he has been taking any alcoholic beverage within this time period, he will note that even small amounts of alcohol will cause a marked and for him unpredictable effect, and that a hangover will usually follow the intake of even a modest amount of alcohol.

Just following or accompanying the fever, the patient notices a progressive loss of appetite to specific foods especially those that are heavily spiced or contain a large quantity of fats derived from plant sources, such as shortening. The patient will complain of feeling excessively gassy at this point, and may experience several mild bouts of diarrhea with or without vomiting, alternating with constipation. Within 3 to 6 days of the onset of fever, the temperature will usually return to normal, and about this time, the patient will begin to experience an increase in fatiguability of a quality difficult to describe but more severe than that found with other mild infectious diseases. Most individuals describe it as "I feel as if my engine had stopped"; and they develop a general lack of interest and apathy, plus a type of irritability which might best be called

"general crabbiness." The crabbiness is much more pronounced in women than in men, and is often so striking, as to permit the diagnosis of hepatitis without much further ado. Parenthetically, it might be added, that in one area where we studied an outbreak of adult hepatitis, a considerable increase in the divorce rate was recorded within the year after the disease had occurred. It was our opinion that this was due to the generalized crabbiness of the population.

Women show a number of additional signs and symptoms which strongly suggest the diagnosis of hepatitis. If the infection strikes at a time just prior to the onset of a menstrual cycle, it is common for this period to be abnormal. This may mean either severe and incapacitating cramps with minimal bleeding, or prolonged and excessive bleeding in a person in whom this normally does not occur. It is of interest, the dysmenorrhea may continue to appear for the next several menstrual cycles, which also may be abnormal in other ways. Women will note that they are developing acne-like rashes confined chiefly to the face, they will note excessive oiliness of the skin, and the fact that hair loses its normal luster, permanent waves do not take, and even setting the hair becomes impossible.

All the events that I have enumerated occur with serum hepatitis as well as infectious hepatitis, except for the fact that the serum disease is not usually marked by a temperature elevation above 101 degrees. Additionally, in this disease the complaint of fatigue may be present for several weeks prior to the onset of gastrointestinal symptoms, and migratory joint pain and swelling occur with some frequency very early.

It is of importance to remember that all these signs and symptoms occur with great consistency in patients who demonstrate no jaundice. As with so many other things in medicine, nothing is as important as a good history, because physical examination in these mildly involved patients is often negative particularly if it is performed early in the course of the illness. Occasionally liver ten-

derness can be illicited by heavily percussing the lower rib cage. A patient who has liver involvement will complain not only of discomfort following this procedure but will also usually become nauseated. Within ten to 15 days of onset, the liver may be sufficiently enlarged to be palpable, but this does not invariably happen. Tenderness always precedes enlargement.

A relatively simple laboratory test will be abnormal even in these mild cases. This is the urine urobilinogen examination. With a little bit of practice it becomes easy to detect an abnormal intensity of the red color which develops following the addition of Ehrlich's reagent to a small urine sample. The only equipment necessary is a test tube with a mark at the 2.5 ml. level, and a dropper or pipette also with a mark indicating a volume of 2.5 ml. The test consists simply of placing 2.5 ml. of urine in the test tube, adding 2.5 ml. of Ehrlich's reagent and then 5 ml. of a solution of sodium acetate. A color develops within a minute or two, and its intensity is proportional to the amount of urobilinogen excreted.

The most sensitive test in the early phase of a mild non-icteric hepatitis is the serum transaminase determination. Unfortunately, this procedure is cumbersome, and requires good laboratory facilities.

It should be emphasized that there is no specific therapy for hepatitis.<sup>2</sup> Unfortunately, in the United States as a whole, most cases of this disease are woefully overtreated, something which is not only expensive, but often does the patient physical harm. For most cases of hepatitis, treatment should consist only of rest and an adequate caloric intake. Rest means bedrest as complete as possible. Caloric intake means calories provided in any form in which the patient prefers to take them, excluding only alcoholic beverages. The appetite is often fickle; if the patient wants to eat pickles all day, give him pickles. There is no evidence that special diets are of any benefit. Patients with hepatitis can usually eat more at breakfast than

at any other time of the day; it is therefore worthwhile to reverse the usual sequence of meals and to serve them their dinner shortly after they awake in the morning. No drugs of any sort should be used for symptomatic relief of anorexia, nausea, vomiting, irritability or malaise. Almost every pharmacologic agent useful for these purposes has proven toxic to liver tissue. If the patient has considerable pain from dysmenorrhea, the safest analgesic to use is meperidine. Gamma globulin is useless in treatment of this disease, liver extract injections and antibiotics are contraindicated, vitamin supplementation of the diet is worthless, and to employ cortisone therapy in the average mild or even moderately severe case of hepatitis is, to say the least, poor medical practice.

In the past several years we have seen outbreaks of illnesses resembling classic hepatitis in their clinical and laboratory manifestations but which must have been due to agents other than the two associated with infectious and serum hepatitis. For example, we saw one epidemic among student nurses in a hospital in the Mid-West where an incubation period of approximately seven through nine days could be clearly delineated and where, while liver involvement and even icterus were present in most patients, the illness was so mild and transient to be strikingly different from the classic form of hepatitis. For example, the patients with jaundice did not show any appreciable weight loss, although in the usual case, an adult loses at least ten to 15 pounds. In addition to that, all affected individuals recovered within five or six, in some cases ten days following the onset of their illness. The short incubation period, as well as the consistently short and benign course of the clinical illness, effectively rule out the diagnosis of either infectious or serum hepatitis in the classical sense even though the clinical laboratory findings did not differ from those usually observed with the latter two diseases. During the course of any year, we see in our clinic population a fair



number of individuals who demonstrate similar peculiar illnesses for which no clear-cut etiologic explanation is at hand. This particular form of hepatitis appears to be more infectious than the classical one, and will spread within a family unit even though gamma globulin has been given to all contacts as soon as a diagnosis is suspected. These observations indicate that viruses other than the two usually considered are capable of producing liver disease, a subject we will return to later.

While there is no specific therapy for hepatitis, an exceedingly effective method of prophylaxis exists. This is, of course, immune globulin, also called gamma globulin, about which there now is a great deal of valuable information on which concrete recommendations can be based.<sup>3,4</sup> As far as liver disease is concerned, this biologic is effective only against the virus causing infectious hepatitis; there is no evidence to suggest that the material prevents serum hepatitis. The recommended dose of immune globulin in the prophylaxis of infectious hepatitis is 0.01 ml. per pound of body weight. For practical purposes one usually gives 1 ml. to children under 100 pounds and 2 ml. to older children and adults. This dose is adequate to prevent the occurrence of hepatitis in approximately 90 to 95 per cent of persons to whom it is administered prior to the onset of symptoms. Almost all failures that do occur are due to the fact that the injection was given too late in the incubation period, namely, just prior to the onset of symptoms. To be effective, it is essential that the material be administered at least five to seven days prior to the onset of illness. Since the incubation period of infectious hepatitis is approximately three weeks, this does allow the physician ample time for proper diagnosis of the index case before the material need be administered to family contacts. There have been reports in the literature suggesting that the dosage here recommended is too low; these reports are based on abnormal conditions and deal with a hepatitis virus which differs in some

ways from the agent encountered in open communities. All data collected in naturally occurring outbreaks indicate that the 0.01 ml. per pound dose is adequate, and that nothing is gained by giving more.<sup>1</sup>

In administering immune globulin, one is conferring only passive protection which can ordinarily be expected to last until the globulin received is metabolized or destroyed. This time period is approximately four to five weeks. It is of interest, however, that observations in several epidemic situations suggest that the protective action of a single injection of immune globulin against hepatitis may, in some instances, be extremely prolonged.<sup>5</sup> It is unlikely that this would be due to persisting passive immunity. The occurrence of transient abnormalities in liver function tests in many asymptomatic persons exposed to hepatitis but protected by adequate doses of globulin may mean that the antibody received permits only mild subclinical infection insufficient to cause clinical illness. This concept of passive-active immunity from immune globulin administration has been supported by experimental studies. Therefore, an individual who has received gamma globulin following his initial contact with the infection may, in fact, be protected for life in a manner quite analogous to that known to be true for measles modified by immune globulin administration. Because of these facts, it is only necessary that a single dose be given to an individual following his exposure to a patient with hepatitis, even though conditions might be such that continued exposure to infection occurs.

It is important to note that immune globulin never contains the virus of serum hepatitis, since the chemical manipulation of plasma necessary for globulin precipitation either destroys or precipitates the serum hepatitis virus in a different fraction. As a matter of fact, any reactions to gamma globulin administration other than pain are rare if the material is injected by the only possible route, namely intramuscularly. Immune globulin must never be given intravenously, even in dilute form. Severe, and sometimes

fatal reactions have occurred following this type of administration.

What should a rational policy toward gamma globulin administration be? Obviously, if an outbreak is found in a populous area, there is not and never will be enough of the material available to protect every individual who might conceivably be at risk. The biologic must therefore be distributed on the basis of the known epidemiology of the condition. Infectious hepatitis is not an exceedingly contagious illness; it is therefore very unlikely that a casual contact with an infected person will lead to hepatitis.

Therefore, the casual and transient presence of an individual who, say, has stayed for dinner, in a home where a case subsequently occurred, is not an indication for administration of the material to the guest. At greatest risk are the family contacts of a case, those individuals regularly residing within the same household. Attack rates in families are often in the range of 25 per cent, far higher than those found under any other normal situation. Obviously, therefore, the family contacts of a patient must be protected. Pregnant women are at special risk, since the disease is more severe and occasionally fatal in this group. It would seem reasonable, therefore, to protect these women with gamma globulin even after relatively casual contact with a patient known to have or subsequently develop the disease.

The problem of dealing with a school-centered epidemic has never been adequately solved. Infectious hepatitis is usually an exceedingly mild illness among children, particularly those in the age groups from birth through nine or ten years. While it has often been thought necessary to give gamma globulin to all pupils when evidence suggested that a community outbreak was most likely due to contact between children at school, the consequences of such an action must be considered. Infection can still take place following gamma globulin administration, and there is considerable evidence to suggest that the protected, sub-clinically ill individual is excreting the virus and is there-

fore capable of infecting others. When one administers gamma globulin to a large group of children, one is driving the disease underground in this particular age group. The virus will continue to spread in the school, and the protected children, who themselves are not ill, will take the virus home to their parents, and other family contacts, who may then become sick. The widespread use of immune globulin in a school situation therefore robs the physician of the index case, the one that would have led him to give gamma globulin to the family contacts. The end result may be, and apparently often is, hepatitis among the parents of the protected children. It is in this particular adult group where the disease is severe and of considerable social and economic consequence. One is therefore caught on the horns of a dilemma, whether one should protect children who would have mild illness, and run the risk of severe disease among their contacts. Personally, I feel that adults must be protected while the disease in children is sufficiently mild to be of no serious consequence.

Frequently, there is considerable concern about protecting infants during an epidemic situation. There appears to be a widespread but entirely erroneous belief among the medical profession and the laity that hepatitis in infancy and early childhood is a severe illness that must be avoided. This is entirely incorrect. Cases of post-natally acquired infectious hepatitis in children under three or four years of age are almost invariably sub-clinical or so mild as not to be recognizable. The erroneous belief that hepatitis of infancy is severe is apparently based on the fact that congenital hepatitis, an illness acquired by the fetus before he is born, is often associated with grave consequences. Congenital hepatitis is entirely different from the illness acquired post-natally, and represents, in fact, a syndrome of multiple etiologies only some of which are infectious. Parenthetically, it should be added that despite intensive search there is no evidence whatever that the virus of infectious hepatitis crosses the placental barrier and causes either malformations or



congenital hepatitis in the fetus. On the other hand, there is considerable evidence to suggest that the agent responsible for serum hepatitis is one of the etiologies of the congenital hepatitis syndrome; in this instance, it is of interest to note that the mother does not have a history of jaundice or liver dysfunction, and is therefore an asymptomatic or silent carrier of the virus.

Gamma globulin is of no benefit in the treatment of hepatitis and dosages in excess of the ones recommended do not confer any additional protection over that gained with the recommended amounts. The common tendency to give the material in the belief that "it can do no harm and it'll keep Mrs. Jones happy," can only be condemned. The available supply of gamma globulin is steadily shrinking; it is likely that there will never be much of it around, and to waste it in order to avoid an argument will only deprive someone else of it whose health and, in fact, whose life may depend on the availability of the material.

Ever since it was shown, at about the time of World War II, that human hepatitis was due to several viruses, the search has been on to develop a laboratory method for the propagation of these agents. Initially, animals were used, and this work was completely unsuccessful. It was found that many mammalian and avian species carry hepatitis viruses of their own, which usually proved species specific. In other words, the virus that produces hepatitis in the dog is unable to produce a similar disease in man, and vice versa. Then, when tissue culture methods became available, attention was focused on attempting to grow the viruses on cells in test tubes. This has proven to be a singularly difficult, disappointing and confusing task. The first report of a possibly successful propagation of the infectious hepatitis virus described the agent's growth in chick egg embryos, and the authors used the fluid from the egg as a skin test antigen, to determine immunity to this virus.<sup>6</sup> Material taken from the infected eggs did, in fact, on occasion produce a transient clinically evident

and laboratory demonstrable form of hepatitis in human volunteers, but this action was far from constant. The virus eventually died out and could not be propagated further. Subsequent reports of the isolation of the infectious hepatitis agent in tissue culture and/or chick egg embryos could not be confirmed. In 1956 a group reported the successful cultivation of cytopathogenic agents from patients with clinical hepatitis in a special cell line known as Detroit-6.<sup>7</sup> The agents thought to produce this effect were rather unique in many respects. The culture system as originally defined required elaborate precautions, and perhaps due to this there were a number of reports of unsuccessful attempts to reproduce the results. The tissue culture was considerably refined in succeeding years and this past September the same group presented a comprehensive report covering studies carried out in the virology laboratory and a number of clinical trials in which a group of volunteers received these agents.<sup>8</sup> The results can be briefly summarized. The administration of the tissue culture fluids to the human volunteers produced reasonably consistently a mild illness occasionally accompanied by low-grade fever and by jaundice, as well as changes in the liver chemistries resembling those found with the naturally occurring disease. There are, however, several features which are disturbing. In the first place, the virus in question was isolated originally only from the serum of the initial patients. This in itself is not too unusual since the virus of infectious hepatitis does produce a viremia. However, when the tissue culture material containing the virus was fed to volunteers, no disease occurred, yet it is known that the primary spread of the infectious hepatitis virus is via the alimentary tract. Infection in volunteers could only be produced if the agent was injected parenterally. Then, the incubation period of the experimental disease was longer than that normally seen with infectious hepatitis, averaging consistently more than 30 days. You will recall that the incubation period of the natural epidemic disease is approximately 21 days and at least 45 days for serum hepa-



titis. Then, the duration of viremia in the volunteer was longer than one would expect to find in patients with infectious hepatitis. Another feature which I find disturbing in the analysis of these data is the fact that the attack rate among the volunteers receiving the material was higher than one would normally expect. It is well known that the great majority of young adults has had hepatitis in the past and is relatively resistant to infection, whether they in fact have a clinical history of infectious jaundice or not.

What does all this add up to? I believe one can say that this particular group of investigators has, in fact, isolated several agents related to each other but probably serologically distinct, which are able to produce transient liver inflammation in human beings following parenteral injection. They may be dealing with an atypical serum hepatitis-like virus. There is no evidence that these agents are in fact the one or ones responsible for epidemic infectious hepatitis as we see it in the country at large. This particular point requires a great deal more evidence than is available at the moment. Certainly, there is no justification for the "hoopla" that appeared in the lay press, who generally interpreted these data as indicating that a hepatitis vaccine was just around the corner.

It should be mentioned that in the past year other investigators have reported the recovery of cytopathogenic agents from patients with infectious hepatitis, but in these studies the evidence that the viruses are, in fact, related to the disease in question is even more tenuous than in the investigations that I have cited in detail. We are, therefore,

only at the beginning of this work; it will prove extraordinarily difficult to establish clearly the relationship of any agent isolatable by laboratory means as one of the several causes of human hepatitis. Certainly, even talk of a successful vaccine should be postponed until the time that these etiologic relationships are fully understood.

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## *Editorials*

### **ADVANCES IN MEDICINE**

The year 1962 was one of vast development in a wide field of medical sciences, according to a poll of the specialty sections of the American Medical Association.

There may, in fact, have been several "breakthroughs"; but because of the growing complexity and intertwining of medical knowledge it could take some time to uncover these.

This was nowhere better exemplified than in the field of genetics where, in the footsteps of Drs. F. H. C. Crick, M. H. F. Wilkins, and J. D. Watson, this year's Nobel Prize winners in medicine, the long-heralded breakdown of the genetic code is firmly under way. Breaking the code could be a gigantic step into the future for medicine, but first more knowledge will have to be developed.

The code, intertwined in a thread-like molecule of deoxyribonucleic acid, dictates all growth and life functions from the nucleus of every living cell.

It is reasoned that if this molecule is out of kilter it may create a chemical imbalance in the body, leading to defects or weaknesses. If an individual's code could be studied, then

discovery of such imbalances might be possible and corrections made, perhaps by drugs or perhaps by juggling the code itself.

But knowing the code is not enough. There must also be an understanding of other complex unknowns of body chemistry, and such understanding will probably require more years of research.

Advances in genetics, however, were not only in the field of deciphering the genetic code. Dr. Robert Guthrie of the University of Buffalo devised a blood test to determine at birth whether an infant suffers from phenylketonuria. This disease, caused by a chemical imbalance, prevents the body from breaking down certain food acids, which can cause irreparable brain damage. If this is known early enough, damage can be averted by control of the diet.

Another development which may lead to a general breakthrough in medicine was the discovery for the first time of a drug capable of curing a virus disease. Until now such diseases could only be prevented by vaccines.

At the AMA annual meeting in Chicago, Dr. Herbert E. Kaufman of the University of Florida offered proof that application of

the drug 5-iodo-dexyuridine kills off the herpes simplex virus which invades the cornea of the eye and may cause blindness.

Viruses work their destruction within living cells. Until now the only way to eliminate such viruses was to destroy the cells, causing as much harm as the virus. But Dr. Kaufman's findings offer hope that other virus cures will be found.

Progress was made in 1962 in the field of transplants by using heavy radiation or extremely strong drugs in overcoming the body's usual refusal to accept the tissues of another person, unless that person is an identical twin. The only drawback to this method is that it often produces harm.

Proof in 1962 that the thymus gland is the seat of the body's defense mechanism which rejects transplants triggered hope that in the not too distant future manipulation of the gland and its secretions may make possible successful transplants.

While some success has been recognized in kidney transplants, the only consistent success has been with cornea transplants, which has practically no blood supply and so has no built-in immunity.

New techniques also spurred advances in other fields of surgery.

Specialists developed two methods of stimulating failing hearts. One process uses an electrical shock to make the heart continue beating. Another uses chemical stimulators, implanted within the heart muscle.

There were also several methods devised to increase the flow of blood to the heart muscle. It was found that bits of spleen, which are rich in blood vessels, will take root when grafted to the muscle and thus increase the supply. Also pioneered was the diversion of a chest artery to the heart muscle.

Significant in the field of ear surgery was the development of surgical means of replacing vital middle ear parts with plastic or stainless steel.

Hypothermia, cooling of the body, was given wider use by surgeons during the year, particularly when operating on vital organs such as the heart and brain.

Super cold, at nearly 400 degrees below freezing, became a medical tool during the year. Using a hollow, needle-like device at this temperature, Dr. Irving S. Cooper of New York City freezes a small area deep within the brain.

By this means he is able to stop the tremor and rigidity associated with Parkinson's disease, which afflicts about 300,000 in this country.

Another freezing technique, devised by Dr. Owen Wangenstein of the University of Minnesota, showed success in treating peptic ulcers. A balloon with tube attached is placed in the patient's stomach and inflated with a coolant.

Meanwhile, experiments with dogs may open the way to other surgical techniques aimed at curing cancerous organs, ulcers, and other ills. It was shown that stomachs, spleens, intestines, and other organs could be taken out of dogs, given radical treatment even with radiation that otherwise would kill the dogs, and reimplanted.

As in preceding years, much of the effort in drug development was directed at cancer. No one drug proved completely successful, but several—notably Thio-Tepa<sup>®</sup>, Methotrexate<sup>®</sup>, and 5-Fluorouracil<sup>®</sup>—may point the way toward possible breakthroughs in the field.

Some gains were noted with the use of super-toxic doses of drugs—doses which normally would be fatal. It was found that these could be used in certain sections of the body if these sections are "tied off" from the regular blood supply and kept alive with heart-lung machines.

The drug Ethionamide showed its merit in fighting tuberculosis, especially in view of the increasing resistance by the tubercle



bacilli, which causes the disease, to present medications.

Other developments included new types of penicillins which are more efficient against drug-resistant bacteria and less likely to cause allergic reactions in patients.

There were also several plusses in the field of vaccines. The new measles vaccine was showing good results in field tests, although it is not yet on the market. Also, the way was possibly open for development of a German measles vaccine with isolation for the first time of the rubella virus.

Also developed and being tested is a vaccine which promises success in malaria immunization.

The Sabin oral polio vaccine got its first wide-scale use and by the year's end had created somewhat of a storm. There were reports of a few cases of type III polio following inoculation with the Sabin type III vaccine. Dr. Albert Sabin, however, said his studies showed no evidence that the causes were linked with his vaccine. At any rate, the incidence of polio appeared headed for an all-time low.

Venereal disease, which was supposed to be on the way out five years ago, was making a strong comeback, as was tetanus, an easily preventable disease.

### SMALLPOX

Our national immunity against smallpox is on the down grade, according to a recent study.

Because of this, the American Medical Association is urging state and local medical societies to join in a long-range program to bolster our immunization level.

At the Los Angeles meeting the AMA's House of Delegates adopted a statement which pointed out that the immunization level is declining and may have "reached a dangerous low."

It is the opinion of Dr. F. J. L. Blasingame, executive vice-president of AMA, that medi-

cal societies must launch a continuing campaign if this nation is to have needed protection against smallpox.

He said the campaigns should be directed along two chief lines: (1) encouraging physicians to vaccinate or revaccinate their patients against smallpox and (2) urging the public to go to their physicians to be vaccinated or revaccinated."

Despite the growing lack of immunity among Americans against smallpox, Dr. Blasingame stated that "no emergency exists, and no mass or community programs for immunizing the population against smallpox are warranted or recommended."

Dr. Blasingame called on public and private health agencies, farm organizations, parent-teacher associations, service groups, and educational agencies to help with the campaign but added that in the final analysis it will be the individual physician in his office who will determine the effectiveness of the campaign.

The statement adopted by the AMA's House of Delegates pointed out that maintenance of protection against this serious epidemic disease requires revaccination at least every five years. Many health authorities recommend a new vaccination every three years.

The statement also pointed out that the growing amount of international travel, at increasing speeds, to and from areas of the world in which smallpox is prevalent, persistently threatens to introduce the disease into the United States. Recent outbreaks in other Western nations emphasize the need for attention to this problem.

It concluded that the American Medical Association, in the interests of national safety, urges physicians and their patients, particularly those who may be in contact with possible carriers, to maintain the needed protection against smallpox.

Dr. Raymond L. White, director of environmental medicine for the AMA, said that

while smallpox may be one of the most serious communicable diseases, resulting in death in one out of five cases, it is also one of the most easily preventable diseases.

He said the low level of immunity that now exists in this country is deplorable and that the appearance of even one case of smallpox could touch off an epidemic under existing circumstances.

### AMA-ERF

In these days of uncertainty, when it is often difficult to make plans far into the future, AMA-Education and Research Foundation is moving ahead with a Student Loan program that has its target set squarely in the long-term future—the future of American medicine. Its objective is to insure the quality of medical care for coming generations.

We know of few programs in which a comparatively small contribution can so dramatically promote the future welfare of so many Americans. A gift of \$100 to the AMA-ERF Student Loan Fund will generate a bank loan of \$1,250—enough to finance a medical student's training for half a year.

And the power of that \$100 donation doesn't end there. When the medical student completes his training, he'll repay his debt and the \$100 will return to the fund, where it can be available to help finance a medical education for another student.

Think of what a contribution of \$1,000 could do if donated now—it could provide the financial aid to produce a new physician in 1970, another in 1977, in 1984, again in 1991, and in 1998. And the \$1,000 would still be in the fund, ready to serve the cause of medicine again and again.

Physicians throughout the nation are being asked to contribute to this fund, which is now committed by loans made last year. Once again, Merck Sharp & Dohme has pledged \$100,000 to be matched by individual

physicians' donations. We urge you to do your share.

It is difficult to imagine a better way of putting dollars to work for the future of medicine.

### AMERICAN COLLEGE OF PHYSICIANS

Fifteen Alabama physicians have been honored by the American College of Physicians, an international organization representing the specialty of internal medicine.

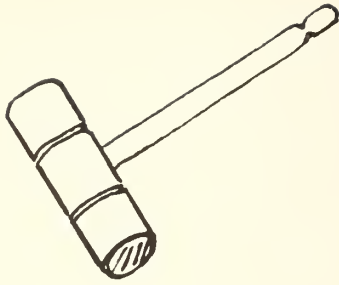
The honor is bestowed only on physicians who have satisfactorily completed advanced training in internal medicine or related fields.

The American College of Physicians was founded by internal medicine specialists more than 47 years ago to maintain and advance the highest possible standards in medical education, medical practice, and research. It now has more than 11,500 members in the United States, Canada, Mexico, and Latin American countries.

Dr. Franklin M. Hanger, Staunton, Virginia, President of the internist's group, announced the names of physicians from Alabama designated as Fellows and Associates by the Board of Regents of the College. Doctors designated as Fellows of the American College of Physicians were: Charles E. Butterworth, James F. Crenshaw, William J. Hammack, Wood S. Herren, III, Walter C. McCoy, Herschel V. Murdaugh, Jr., James A. Pittman, Jr., and Henry D. Thomas, all of Birmingham; Dr. William B. Crum of Montgomery, and Dr. Carl F. Luckey of Florence.

Elected as Associates were: Drs. Hugh J. Hughes, Bruce K. Johnston, Earle H. Sugarman, and John S. Whitehead, all of Birmingham; and Dr. Michael L. Campbell of Mobile.

The Fellowship honors will be formally bestowed April 4, 1963, in Denver, Colorado at convocation ceremonies to be held in conjunction with the 44th Annual Session of the American College of Physicians.



# President's Page



## MEDICAL EDUCATION---YOUR RESPONSIBILITY

Medical education deserves your active support whether you are engaged in research, teaching, or practice. Truly, the future of medicine will be closely correlated with the ability of the educators to develop and distribute advances in scientific medicine to medical students and to graduate physicians. The best available method of continuing medical education for those who practice the ART and the SCIENCE of medicine is under careful study and evaluation.

Some problems of prime significance in the educational field deserve your careful consideration.



*W. Clann Brown, M.D.*

### **Increase in Medical School Facilities**

Probably the most thorough study of the future needs in medical education came from the "Bane Report" (Physicians for Growing America; Report of the Surgeon General's Consultant Group on Medical Education).

Future needs are based upon three major factors: the rate of population growth, the impact of medical progress on the nature and extent of medical care, and the future pattern of medical education.

There appears to be general agreement among educators that there will be an acute shortage of medical manpower in the next ten years. The establishment of new four year medical schools and the enlargement of existing medical schools, where feasible, are the only methods of combating the expected shortage of physicians.

Physicians who are conversant with the need for increased medical education facilities in Alabama are in general agreement that a second medical school or a branch of the Medical College of Alabama should be completed within the next decade.

### **Need for Qualified Students and Faculty**

Studies by the Council on Medical Education indicate that this will not pose a great difficulty as long as intelligent efforts are forthcoming to make medicine an attractive career compared with other professional fields. This is being accomplished, to a certain degree, through the public relations effort of national and state committees on Medical Education and Hospitals and the



MORE campaign being sponsored by the American Academy of General Practice.

The availability of adequate faculty members will undoubtedly increase as medical schools are completed which will have suitable classrooms, laboratories, libraries, hospitals, and clinics for research and community care.

### Financing of Medical Schools

Medical schools must be adequately financed. The methods vary from the private schools supported by foundations to the state-supported medical schools which receive federal grants for research and teaching. These funds, both private and governmental, are often legally restricted to various areas of research, teaching, or community medical care. Naturally, the grantors reserve the right to assess the overall value of the activities supported; and it follows that they will control, to some degree, the content and scope of their research.

Gerald D. Dorman, M. D., a member of the A. M. A. Board of Trustees, and Leland S. McKittrick, M. D., Chairman of the A. M. A. Council on Medical Education and Hospitals, testifying on Health Professions Educational Bill (H.R. 4999) testified, "We believe that there is a need for assistance in the expansion, construction, and remodeling of the physical facilities of medical schools; and, therefore, a one time expenditure of federal funds on a matching basis is justified, where maximum freedom of the school from federal control is assured."

The controversy over federal aid to education is still rampant. The arguments against medical schools, receiving federal aid may be academic since over fifty per cent of the budget of many medical schools comes from the federal treasury in various forms such as research grants.

The final decision on education financing by the federal government will undoubtedly rest with our national Congress. Since these decisions are made after exhaustive hearings,

it is evident that all interested organizations should testify to their beliefs.

The Council on Medical Education and Hospitals (AMA) is in the process of making a careful study of the current role of federal funds in the support of medical school activities.

### Medical Center Concept

It is difficult to understand the complexities and interrelationships involved in training medical students and paramedical personnel. The "Medical Center" concept of medical education advocates the integration of teaching, research, and clinical service. It appears unwise to me to segregate research from teaching and clinical medicine—patient care being the final objective of all types of medical education. The teaching hospital with its corps of trained, full time specialists is an important factor in the training of physicians in the clinical specialties.

Postgraduate medical education or continuing education of the physician has been the subject of study and research in recent years. Some authorities have recommended a refresher course every five years with a penalty for those who fail to comply. The implementation of such an idea, however meritorious, would be necessarily difficult, if not impossible, to enforce. The Academy of General Practice requires certain hours of attendance at stipulated medical meetings as a prerequisite to continuing membership.

Many physicians in this area are looking to the medical schools for leadership. They believe that the medical colleges must accept an obligation to the practitioner throughout his medical career. The reasons behind this attitude are that the medical colleges are major centers of research and have physical facilities as well as trained educators to offer successfully the varied educational programs required. If this concept is to gain the strength it should, then it will be a moral duty (if for no other reason) of the practicing physician to support and attend these post-

graduate courses given to advance the physicians' medical education and to improve patient care.

The Medical College of Alabama recently sent out questionnaires to private practitioners requesting information as to the type of postgraduate education they would prefer. The assumption is that the Medical College of Alabama is now preparing to offer postgraduate medical education on a continuing basis, probably this spring.

#### **Educators and Practitioners**

The relationship between medical educators and medical practitioners is frequently under considerable strain. Differences of opinion, principally because of a different point of view, could be immeasurably improved by better communication and intelligent discussion, such as those which occurred at a recent meeting sponsored by the Association of American Medical Colleges in Denver. Many practicing physicians were invited to attend and take an active part in the general discussion. Meetings of this type will serve an extremely useful purpose and should be continued.

Your education should never cease. Your medical education should always serve as an

inspiration to further your everlasting quest for knowledge. As long as you maintain your intellectual interest in the profession you will never really grow old.

It has been traditional that physicians should help to educate other physicians, just as you and I were educated. Suppose you read the first part of the Hippocratic Oath again—SEE WHERE YOU STAND.

#### **The Oath (400 B. C.)**

I swear by Apollo the physician, and Aesculapius, and Health, and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this Oath and this stipulation—to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required; to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they shall wish to learn it, without fee or stipulation; and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the Art to my own sons, and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others.

## **WHERE DO YOU STAND?**



## ASSOCIATION FORUM

# A Program for Rational Tax Revision

*Tax-rate reform offering greater freedom for economic growth has been the subject of many Congressional proposals. As our federal lawmakers move toward tax revision during this session of Congress, it is timely to consider the merits of identical bills (H.R. 12632 and H. R. 12633) introduced in July, 1962, by Representative A. S. Herlong, Jr., (D-Fla.), and Representative Howard H. Baker (R-Tenn.). As pointed out in the following article that appeared in The Texaco Star, which is based upon statements made by Representatives Herlong and Baker, the legislation they propose would provide for systematic rate reductions in personal and corporation income taxes over a period of five years within the framework of a balanced budget.*

Ever since the mid 1950s, the American economy has suffered from chronic sluggishness. Although it has had its ups as well as its downs, the overall charting shows a worrisome failure to move ahead at the lively annual rate that means economic health.

According to the best diagnoses by our economists, business leaders, and informed people in government, this illness in the economy can be traced in large part to two related causes.

First is headlong federal spending with its inevitable "red ink" financing. Second is the oppressively high taxation levied on both individuals and corporations to help pay bills federal spending has created.

It is not surprising that both the private and corporate citizen, riding such a merry-go-round of spending and taxation, have become weary. It is not hard to see, either, why both have become wary—wary particularly of stepping up outlays, and taking risks in the



hope of financial rewards. Present tax rates not only severely restrict the funds available for spending but also sharply curtail the amount that can be kept if—as a result of hard work and risk taking—a gain in before-tax income is achieved.

In the case of industry it has meant reduced incentive—and funds—to construct new plants and equipment (economists use the term “capital formation”) capable of supplying new products or using new techniques to increase the efficiency of production. Instead, industry has made do with existing equipment despite the fact that much of it is technologically out of style. Consumers, too, have been reluctant about increasing their purchases of durable goods and other “big ticket” items.

The inevitable result of too little capital investment is stunted economic growth and a nagging unemployment problem. Growth comes from capital formation, and when programs of heavy public spending and taxation take too much money from the private economy, new capital formation is discouraged.

The notion persists, in some quarters, that the way to spur economic expansion is to increase government spending and not worry about the budget deficits. The theory is that an increase in private spending will be encouraged this way, lifting the national income and tax revenues.

Admittedly, a temporary spurt is possible if fear of inflation becomes widespread. But it is surely no formula for enduring prosperity. The experience of this nation and others is clear proof that runaway government spending isn't a sound economic policy.

In more thoughtful quarters, attention has been turned to the possibilities of spurring economic expansion and job-creating enterprise by cuts in tax rates, and one of the most imaginative and responsible proposals in that area has been made jointly by Representatives Herlong and Baker of the House Ways and Means Committee.

Their proposals, contained in identical bills, are for a five-year program of gradual cuts in personal and corporate taxes. The reductions would be made on a scale that would offer some hope of maintaining a reasonably balanced budget and by a method that would tend to maintain some check on government spending during the five-year period.

By the end of the five-year period both corporate and individual income tax rates would have been cut to a maximum of 42 per cent. Other graduated rates of individual tax would be reduced in a consistent pattern, with the present 50 per cent rate (to take one example) coming down to 23 per cent. The first bracket rate of 20 per cent would be lowered to 15 per cent, assuring a minimum reduction of 25 per cent to every personal taxpayer.

The combined top rate of corporate tax would be reduced two percentage points a year, or from 52 to 42 per cent, over the five-year period. The new top rate of 42 per cent would still be over 10 per cent higher than the 38 per cent top rate of corporate tax between World War II and Korea.

It is estimated that the yearly tax saving would be approximately \$3.7 billion (\$2.7 billion from individual rate reduction and \$1 billion from corporate rate reduction), based on current income levels.

What would happen to tax revenues while these reductions were being put into effect? Would they decline by the \$3.7 billion a year in tax savings accruing to individuals and corporations? The answer is “no.” The tax savings would mean increased spending power for the all-important private sector of the economy. The beneficial effect of higher consumer and business outlays would provide a major stimulus to economic growth and national income. Accordingly, the tax base would be enlarged and thus provide government revenues to finance the reductions arising from the lower tax rates.

However, until after all the reductions have been put into effect, the revenue increase probably would not be sufficient to finance

the tax rate reductions and provide margin for any further significant increase in federal spending. The proposed legislation gives priority to using this revenue increase for tax rate reform instead of for increased spending. As in earlier bills, however, the Congressmen have included a provision that at any time after the first year the President could postpone reductions scheduled in any succeeding year. This would give the federal government flexibility to deal with an emergency, which is only prudent. However, it would also exert a powerful restraint both on the White House and Congress when it comes to proposing or voting spending projects.

Commenting on that built-in restraining feature of the Herlong-Baker proposal, *The Journal of Commerce* in an editorial recently noted that "it would require a singularly tough president and an equally tough Congress to snatch away from taxpayers a scheduled reduction in order to increase government spending."

H. R. 12632 and H. R. 12633 would improve the business climate and the public psychology, creating optimism for the future. They would encourage forward business planning in anticipation of the reform of growth-retarding income tax rates over the five-year period. Their enactment would have a more favorable effect on the economy in the short-range than a large, immediate one-bite tax reduction.

An increase in economic growth and capital formation combined with end to headlong

advances in federal spending will contribute to solving our persistent balance-of-payments problem. Expanded and more efficient levels of production will increase American industry's ability to expand its exports. This will contribute to a more favorable balance in our international accounts and increase world confidence in the stability of the dollar.

In setting the rate reductions, the two Congressmen have been aware of the need to restore to our economy the benefits of mobile venture capital in the hands of individuals. The top individual rate is set at the same level as the top corporate rate. Too, the lower the top rate of individual tax, the greater will be the protection for all middle bracket taxpayers. Proposals for higher top rates of tax inevitably carry with them higher rates through the critical middle brackets.

Representatives Herlong and Baker have also recognized that when a tax reduction is in the air the amount by which tax rates are cut in any one year is not necessarily as significant as public knowledge that further reductions will follow.

A tax cut that unhinges still further an already unbalanced budget and accelerates the outflow of gold will not solve the major problems facing the economy today. It will merely ease some by making some others worse. Spacing out the tax reduction over a period of years seems to be the most workable and effective way to achieve the rate reform our economy needs within the framework of a balanced budget.

# Objectives and Program of the AMA Committee on Nursing

**T**he continued achievement of high standards of patient care in the preventive, curative, and restorative aspects of illness depends upon a harmonious, collaborative relationship between medicine and nursing. In an effort to protect and foster an enduring alliance of understanding and cooperation between these 2 major health professions, the Committee on Nursing has instituted a continuing program of liaison, communication, education, and research. The Committee has authorized publication of the following report on its objectives and program.

VERONICA L. CONLEY, PH.D., *Secretary*

**T**he program of the AMA Committee on Nursing is based on 3 general assumptions: (1) that nurses have a separate and distinct professional status and their contributions are those of co-workers; (2) that nursing should expect the medical profession to support and endorse high standards of nursing education and service; and (3) that each of the various levels of academic and technical accomplishment in nursing makes its own unique contribution to the total health care of the public.

On the basis of these broad assumptions, the Committee has adopted the following objectives:

1. *To expand and strengthen liaison activities between organizations representing the medical and nursing professions at the national, state, and local levels.*

Liaison has been established with all the major nursing organizations (including the American Nurses' Association, the National League for Nursing, the National Federation of Licensed Practical Nurses, the National Association for Practical Nurse Education and Service, and others) as well as with constituent and component medical associations, medical specialty groups, and several national organizations with a collateral interest in nursing.

The Committee feels that one of its major contributions is to promote interprofessional conferences between physicians and nurses. A committee composed of AMA and ANA representatives is now planning a conference on nurse-physician aspects of professional practice. The Committee on Nursing will also encourage the inclusion of nurses on programs of national and state medical meetings and attempt to remedy the scarcity of positively oriented, unbiased material on nursing in the medical literature.

2. *To study and report to the medical profession on current practices and trends in nursing and on developments among nursing auxiliary personnel.*

Through its headquarters staff, the Committee is collecting information on nursing matters vital to physicians. A file of abstracts, excerpts, and reprints is available for quick reference.

3. *To stimulate, initiate, and, where feasible, support research in areas pertinent to the nurse-physician relationship in professional practice.*

Such research requires the collaboration of many disciplines. Several nurse-physician teams are now engaged in extensive research projects. These include studies of interdisciplinary participation in planning care; the nursing needs of chronically ill ambulatory patients; and the amount and type of nursing service which makes the maximum contribution to maternal and infant welfare.

4. *To offer advisory services to both professions on interprofessional matters.*

The secretary and chairman of the Committee serve at present on the committee on careers of the National League for Nursing. The secretary is also a member of the advisory council of the National Federation of Licensed Practical Nurses, the National League for Nursing's committee to study costs of nursing education, and the hospital advisory council of the National Association for Practical Nurse Education and Service. The Committee will also serve as a consultant group to committees, councils, and departments within the AMA. Similar services have been offered to constituent and component medical associations.

5. *To provide support and assistance to the nursing profession and its nonprofessional auxiliary personnel in their efforts to maintain high standards.*

Nursing, like medicine, is faced with pressing demands for change if high standards are to be maintained in our present environment of rapid scientific and social advances. Nursing is now engaged in a continuous reevaluation of its educational system, its scope of services, its legal responsibilities, and other phases of its practice which reflect in the quality of patient care. This Committee supports the efforts of the nursing profession in maintaining high standards and offers its cooperation and assistance.

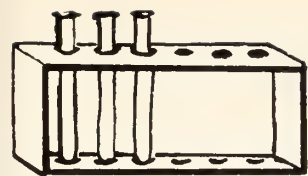
6. *To encourage physicians to accept invitations to serve on nursing school faculties.*

In view of growing pressures on the professional nurse to assume responsibilities of a medical nature, the teaching role of the physician warrants reevaluation. At the present time, some nursing schools are finding it necessary to assign nurse faculty members to lecture on medical subjects.

If the medical and nursing professions are to make the fullest use of their joint potential, they must have not only a common denominator of interest in the patient and a comparable body of knowledge, but also the kind of relationship that derives from a deeper appreciation of, and respect for, each other as allies working toward the same goals.

CLARENCE H. BENAGE, M.D.  
ELIAS S. FAISON, M.D.  
BENSON W. HARER, M.D.  
CHARLES L. LEEDHAM, M.D.  
WILLIAM R. WILLARD, M.D.  
ARTHUR A. KIRCHNER, M.D.,  
CHAIRMAN





# STATE DEPARTMENT OF HEALTH

## DENTAL HEALTH IN ALABAMA

**N. L. Shory, D.D.S., M.P.H., Director**

**Bureau of Dental Hygiene,  
Alabama Department of Health**

The dental profession in Alabama is keenly aware of the dental health needs and deficiencies which exist, and at the present time there is evidence of a comprehensive attack on these problems. The attempts to provide services which will improve the situation are being implemented by both private practitioners and public health dentists. According to the recently published, "Survey of Dentistry," it was estimated that in the year 1960 the 180 million people in the United States accumulated at least 700 million unfilled cavities. This brief statement serves as a focal point in considering what direction is needed in the field of dental public health.

As the approach to the dental health problem is analyzed, it becomes apparent that the maximum benefits to the public are realized when public health dentists and the private dental practitioners work in co-operative harmony. This philosophy in the past has always resulted in achievements which have been a credit to all concerned and this practice is being continued.

In spite of the staggering proportion of rapidly accumulating cavities, dental decay is only one of the many problems facing dentistry today. The health of the gums, the soft tissues of the mouth, and the supporting structures in the vicinity of the mouth and jaws must be considered as important as tooth decay.

Almost everyone will acknowledge that he has a dental problem, but for various reasons he has postponed doing anything about it. It is generally agreed by individuals concerned with health that health education

must be the first approach to the solution of the problem. It is imperative that people be motivated to seek advice on health matters as well as being made aware of the present and future consequences of neglect. Dental public health is working with determination in this direction. At the same time the educational advice of the private dentist should be heeded. All methods of communication should be used to convey the dental health message. There must be understanding if there is to be acceptance.

The most important aspect of dental health is prevention. A great deal of study and research has been conducted which indicates definite and reasonable methods for prevention of unhealthy oral conditions. There remains only the matter of utilizing the practices advocated.

The third large problem facing dentistry is that of treatment. Much has been said recently both in speeches and in writings of the need for more and more dentists because of an estimated shortage in the future. However one must consider whether these allegations are made with the view of needs or demands. True, if our educational efforts are fruitful more people will be encouraged to seek dental care. However, everyone realizes the ease with which one may postpone dental visits.

Consequently, there may be considered the existence of a dilemma which must be resolved by the proper balance of education, prevention, and treatment. The efforts of dentistry, both public and private, are directed toward the achievement of this balance. A wider and more enlightened acceptance of the educational and preventive aspects of dental health definitely would be a step in the direction of less treatment need in the future.

# DEPARTMENT OF HEALTH

## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

### CURRENT MORBIDITY STATISTICS

1962

	Nov.	Dec.	*E. E. Dec.
Tuberculosis	98	78	136
Syphilis	94	100	104
Gonorrhea	287	289	262
Chancroid	2	1	3
Typhoid fever	1	0	3
Undulant fever	0	1	0
Amebic dysentery	3	6	1
Scarlet fever and strep. throat	94	75	80
Diphtheria	2	4	15
Whooping cough	10	5	23
Meningitis	3	8	11
Tularemia	0	0	0
Tetanus	1	1	2
Poliomyelitis	0	1	6
Encephalitis	0	0	1
Smallpox	0	0	0
Measles	14	18	78
Chickenpox	11	98	91
Mumps	17	40	84
Infectious hepatitis	97	53	26
Typhus fever	0	0	0
Malaria	0	1	0
Cancer	677	640	440
Pellagra	2	1	0
Rheumatic fever	15	24	10
Rheumatic heart	34	24	22
Influenza	83	161	119
Pneumonia	136	219	233
Rabies—Human Cases	0	0	0
Pos. animal heads	0	0	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.



## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

December 1962

Examinations for malaria	2
Examinations for diphtheria bacilli and Vincent's	102
Agglutination tests	287
Typhoid cultures (blood, feces, urine and other)	355
Brucella cultures	1
Examinations for intestinal parasites	1,233
Darkfield examinations	6
Serologic tests for syphilis (blood and spinal fluid)	18,097
Examinations for gonococci	1,299
Complement fixation tests	82
Examinations for tubercle bacilli	2,643
Examinations for Negri bodies (smears and animal inoculations)	162
Water examinations	1,707
Milk and dairy products examinations	3,506
Miscellaneous examinations	3,516
<b>Total</b>	<b>32,998*</b>

\*Dothan Branch Laboratory report not received in time to be included in this report.

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

### PROVISIONAL BIRTH AND DEATH STATISTICS AND COMPARATIVE DATA.

NOVEMBER 1962

Live Births Deaths Causes of Death	Number Registered During November 1962			Rates* (Annual Basis)		
	Total	White	Non- White	1962	1961	1960
Live Births	6,369	4,041	2,328	23.2	23.9	24.2
Deaths	2,459	1,551	908	9.0	8.8	9.0
Fetal Deaths	139	53	86	21.4	23.9	23.6
Infant Deaths—						
under one month	122	61	61	19.2	16.5	20.2
under one year	195	80	115	30.6	25.1	35.0
Maternal Deaths	5	1	4	7.7	3.0	4.5
Causes of Death						
Tuberculosis, 001-019	17	8	9	6.2	11.4	7.0
Syphilis, 020-029	5	1	4	1.8	1.5	1.9
Dysentery, 045-048	2		2	0.7	0.7	0.4
Diphtheria, 055						0.4
Whooping cough, 056						
Meningococcal infec- tions, 057						1.1
Poliomyelitis, 080, 081	1	1		0.4	0.4	
Measles, 085						0.4
Malignant neoplasms, 140-205	330	233	97	120.3	116.7	124.5
Diabetes mellitus, 260	29	19	10	10.6	11.0	11.6
Pellagra, 281						
Vascular lesions of central nervous sys- tem, 330-334	340	202	138	123.9	123.7	129.8
Rheumatic fever, 400-402	2	1	1	0.7	1.5	0.4
Diseases of the heart, 410-443	808	562	246	294.4	296.7	281.1
Hypertension with heart disease, 440-443	126	51	75	45.9	42.3	50.7
Diseases of the ar- teries, 450-456	56	42	14	20.4	20.6	14.9
Influenza, 480-483	4	3	1	1.5	3.7	4.8
Pneumonia, all forms, 490-493	65	29	36	23.7	28.0	31.7
Bronchitis, 500-502	7	4	3	2.6	0.7	3.0
Appendicitis, 550-553	1	1		0.4	0.7	0.4
Intestinal obstruction and hernia, 560, 561, 570	16	11	5	5.8	4.4	3.7
Gastro-enteritis and colitis, under 2, 571, 0, 764	13		13	4.7	2.6	6.0
Cirrhosis of liver, 581	14	12	2	5.1	8.5	4.8
Diseases of pregnancy and childbirth, 640- 689	5	1	4	7.7	3.0	4.5
Congenital malfor- mations, 750-759	33	26	7	5.2	4.9	4.5
Immaturity at birth, 774-776	34	12	22	5.3	6.2	6.2
Accidents, total, 800-962	197	120	77	71.8	63.3	60.4
Motor vehicle ac- cidents, 810-835, 960	100	74	26	36.4	33.9	30.6
All other defined causes	363	216	147	132.3	118.5	135.4
Ill-defined and un- known causes, 780- 793, 795	117	47	70	42.6	37.5	51.5

\*Rates: Birth and death—per 1,000 population

Infant deaths—per 1,000 live births

Fetal deaths—per 1,000 deliveries

Maternal deaths—per 10,000 deliveries

Deaths from specified causes—per 100,000 population

# *The Woman's Auxiliary*

## DIARY OF A PRESIDENT

County visits continue to be rewarding. The list grows long, and each one has been a pleasure. In Walker County I had the privilege of meeting the husbands, too. The Medical Society and the Auxiliary had dinner together and then separated for a business session. Mrs. John Miller presided as the president; Mrs. T. R. Whatley was away. Listening to reports and plans, I was impressed by the many activities in which they are engaged. Of unusual interest was the report of a "Nearly New Shop," a project to help a spastic school. The Auxiliary co-operates in this effort. I am looking forward to receiving the annual report from this group.

The following day my journey led to Blountsville. The Blount County Auxiliary had planned a special meeting so that I might visit them while in the vicinity. I am most grateful. Mrs. Ira Patton, president, presided at a dinner meeting in Oneonta. It was informal and fun. Mrs. W. R. Sutton, president-elect, is a member of this interesting group. I want to report that Blount County Auxiliary was the first in the state to reach its "Striving Goal," set by our able chairman for AMA-ERF, Mrs. Curtis A. Smith. I was the overnight guest of Mrs. Sutton, and we travelled together to the Northwest District meeting in Decatur, about which I have already written.

My next trip included two visits. The first was a luncheon meeting of the Lauderdale and Colbert County Auxiliaries in Florence. Mrs. Louie E. Bayles, Jr., president of the Lauderdale County Auxiliary, and Mrs. Gene Qualls, president of Colbert, made me feel most welcome. It was a pleasure to meet their interesting and attractive co-workers. I am sorry my space will not allow me to list all of their names. Following the talk I had been asked to make, we discussed Auxiliary projects and problems. I was the overnight guest of Dr. and Mrs. Bayles in Florence



MRS. JOHN KIMMEY

and enjoyed very much my visit with them. This section of the state was new to me. North Alabama is better organized in Auxiliaries than the southern part of the state. Their interest and enthusiasm is contagious.

The next morning I drove to Huntsville for the Northeast District meeting. Again I had the pleasure of meeting a group of lovely ladies. Mrs. H. M. Pewitt, Jr., arranged the meeting; and Mrs. B. B. Jordan, president of the hostess Auxiliary, Madison County, was the presiding officer. Guests were introduced including the writer; Mrs. Sutton, president-elect; and a number of state chairmen. The guests spoke briefly and then we were entertained with a showing of beautiful "Holiday Fashions." The models were Auxiliary members of Madison County.

May I repeat that I am most grateful for the privilege of serving as president of the Alabama Auxiliary. Not only has the work been rewarding, but the pleasures have been many.

*Ida Kimmey*

President



# OBITUARIES

FLECK, Richard J. Fleck, born in New York City on March 7, 1914, died on November 11, 1962, at the age of 48.

Dr. Fleck received his premedical training at the University of Florida and graduated from Tulane University School of Medicine.

He interned at the Columbus City Hospital, Columbus, Georgia, and was in the general practice of Medicine.

Dr. Fleck was a veteran of World War II.

He was a member of the Jefferson County Medical Society and the Medical Association of the State of Alabama. He was on the hospital staff of the Lloyd Noland Hospital.

Survivors include his wife, Mrs. Hazel Fleck; three daughters, Frances, Carol, and Barbara; and his mother, Mrs. Essie W. Fleck, all of Hueytown, Alabama.

NELSON, William Bruce Nelson, born in Athens, Alabama on January 5, 1911, died on December 20, 1962.

Dr. Nelson received his premedical training at Birmingham Southern College and graduated from Tulane University in 1937. He served his internship at the Lloyd Noland Hospital in Fairfield, Alabama.

He was a member of the Administrative Advisory Committee, Grand Lodge of Alabama, the Dickens Fellowship of New York, Incorporated, the Baldwin County Medical Society, the Medical Association of the State of Alabama, and the American Medical Association.

Dr. Nelson served as Public Health Officer of Baldwin County for twenty-four years.

Survivors include his wife, Mrs. Edith M. Nelson, and three sons, William James Nelson, George Kennedy Nelson and Taffy Nelson.

COWLEY, Howard Stephen Cowley, a native of Devil's Lake, North Dakota, died on November 9, 1962, at the age of 48.

Dr. Cowley received his premedical training at the University of North Dakota and graduated from Creighton University School of Medicine in 1941.

He interned at St. Joseph's Hospital in Kansas City, Missouri, and took his residency in general surgery at the V. A. Hospital in Louisville, Kentucky. He specialized in neurosurgery at the V. A. Hospital in Wadsworth, Kansas.

He was a Mayo Clinic Foundation for Education and Research Fellow from 1950 to 1953.

Dr. Cowley served as a flight surgeon in the U. S. Air Force from 1942 to 1946.

He was a member of the Congress of Neurological Surgeons, a Diplomate of the American Board of Neurosurgery, a Fellow of the American College of Surgeons, International College of Surgeons, and the Catholic Physicians Guild.

In Mobile he was a staff member of Doctors Hospital, Mobile General Hospital, Providence Hospital, Mobile Infirmary, and St. Martin de Porres Hospital.

Dr. Cowley held membership in the Mobile County Medical Society, Medical Association of the State of Alabama, American Medical Association, and Gulf Coast Society of Neurology and Psychiatry.

Survivors include his wife, Mrs. Sophia E. Cowley; three sons, Michael J., Stephen P., and Patrick C. Cowley; one daughter, Ann Louise Cowley, all of Mobile; his parents, Mr. and Mrs. Michael J. Cowley, San Mateo, California; one brother, John C. Cowley, San Mateo.

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## A Five Year Demonstration In Outpatient Care Of Psychotic Patients

FRANCES GASSMAN, M. A. and FRITZ KANT, M. D.

Outpatient treatment for psychotic patients has been stressed in mental health endeavors in recent years, particularly as a result of the strides made in improving psychopharmacological methods of aiding in the control of mental illness. Since the burden of hospitalization of mental patients falls on the state institutions, these advances in the care of mental patients in their own home is more economical for the state. What is even more important, if the mental patient can be sus-

tained in his own home, it often places less emotional stress on the family than "putting the patient away" in an institution and it certainly requires less social rehabilitation of the patient if he can remain in touch with his usual environment and function as much as possible in his usual role while being treated.

The Department of Psychiatry at the University of Alabama Medical Center, in 1957 conceived the idea of undertaking a study to determine the extent to which acutely ill psychotic persons can be successfully treated on an outpatient basis. One member of the teaching staff was designated to develop a clinic procedure geared to the special needs of psychotic patients. It was felt that this would involve the supervision of medication and provision of supportive psychotherapy

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Dr. Kant is a graduate of Eberhard-Karis-Universität Medizinische Fakultät, Tübingen, Württemberg. He is professor of psychiatry, Medical College of Alabama.

Miss Gassman is chief psychiatric social worker at the Medical College of Alabama.

to establish rapport and provide ego strengthening. The general criteria for selecting patients for this clinic was that the patient should be in an acute state of illness. The overall purpose of the clinic was to demonstrate whether hospitalization could be prevented in these cases.

Psychopharmacological drugs are expensive. We realized that, for such a demonstration to be meaningful, it would be necessary for patients to be assured of having the amount and kind of medicine prescribed. There were no funds, either in the Department of Psychiatry or in the University Hospital budget for supplying medication. For this reason the help of various drug companies was elicited. The drug manufacturers were enthusiastic about this demonstration and were willing to supply medication for distribution directly to the patients and these companies have continued supplying drugs generously for the past five years.

The demonstration clinic was started with a few patients in the fall of 1957, but did not get under way formally until January, 1958. It started with small beginnings: one half day a week was devoted to these patients; one staff member in charge of the clinic was assisted by a resident; 81 patients were served during the year, 1958. At the present time service to these patients requires two staff doctors, two half days a week, assisted by seven medical students and the patient load during our most recent year has been 254 patients.

We have felt for some time that we needed to evaluate this service to psychotic patients. So far we had only analyzed results on the first 60 schizophrenic patients in the clinic.<sup>1</sup> We were able to obtain two student trainees this summer to compile statistical data on this clinic population for us. Time did not permit a complete statistical analysis of all patients served during the entire five years, but we selected the year January, 1958 to January, 1959 and the most recent twelve months of the clinic's operations (June, 1961 to June, 1962) to evaluate the trend of this service.

The increase in the volume of patients served (81 in the first year and 254 in the last year) reflects some change in the original criteria established for the selection of patients. It became apparent in the early years of this demonstration that the selection of patients in an "acute" state or exacerbation of illness was not completely compatible with the overall purpose of preventing hospitalization. When it became known in the community that this special clinic was available, many people with chronic illness sought help at the clinic. It was difficult to decide whether the patient with a history of chronic illness and/or hospitalization might become acute again at any time and, therefore, actually was a case needing prevention of hospitalization. In addition, there was another factor operating which modified the selection of patients. The concurrent emphasis on rapid treatment of patients in the State Hospitals, also made possible by the advances in psychopharmacology, meant that a number of inpatients were being discharged with recommendations that medication which had stabilized them in the hospital be continued on an outpatient basis. Many of these patients were referred to our clinic for continuing management if there was no other resource available. We justified the extension of service to these non-acute patients to protect the investment the State Hospital had already made in establishing improvement and also because we recognized that these patients presented definite teaching value to medical students serving their clerkship in Psychiatry. The volume of patients, accumulating as the result of modifying the selection criteria, and also as a result of the fact that the treatment of many psychotic patients turns out to be a long term proposition, has made it necessary to eliminate some patients who might have done better if contact with the clinic had continued. The volume of patients also poses the question as to whether the care of chronic patients not accessible to any psychotherapeutic help should be the function of a teaching clinic.



## OUTPATIENT CARE OF PSYCHOTIC PATIENTS

A quick glance at what happened to the psychotic patients served in this clinic can be obtained from the following summary:

	During First Year	During Last Year
Patients failing to continue treatment .....	23	37
Patients referred to inpatient service .....	12	23
Discharged as improved or in remission .....	11	51
Terminated for other reasons .....	3	18
Continued at end of year .....	32	125
	—	—
	81	254

The term "inpatient service" includes V. A. Hospitals, private mental hospitals, and County Home, but the majority of these referrals were to the State Mental Hospitals. Termination for "other reasons" includes moving, employment, transportation complications, financial inability to pay clinic fee, and a couple of referrals to private physicians.

We are interested in the fact that the patient-failure rate is proportionately lower in the last year than in the first year. There has been no effort to follow up on any of the patients and urge their attendance since the clinic is entirely voluntary and must necessarily depend upon the family and community to support the patient's attendance. We believe that some of the improvement in the continued use of the clinic during the last year is due to an increased amount of social work with relatives, helping them to receive support as well as understanding of the patient's problem, and giving them a feeling of importance as part of the total endeavor to sustain the patient in his own home. The increased amount of professional attention and interest in the patients themselves also probably affects the drop-out rate. Originally

patients were seen by one doctor, but now that we are using this clinic as a teaching opportunity for medical students the patient is seen first by the "young doctor" and then jointly by the medical student and staff doctor. Even though the drop-out rate is relatively small, we are concerned about it because this represents a number of patients who could potentially be helped and it also represents an investment of clinic time, the benefit of which to the patients is unknown. We have plans for a detailed follow-up study of the patients who withdrew from service in order to ascertain what benefits they did receive from the clinic and what finally became of them.

The number of patients who had to be referred for inpatient care has decreased substantially—14.5 per cent in the first year and only 9 per cent in the current year. This may be partly due to the greater selection of medications available. We believe, however, this is due mainly to the fact that our own fears have decreased as we have gained experience in treating the mentally ill on an outpatient basis. We recognize that approximately half of the current population of this clinic is continuing in treatment and some additional patients may ultimately need hospitalization. However, a study of the ultimate outcome of the population served in the first year reveals that, even in this less successful year, 75 per cent of the patients have not required referral to inpatient care to date. In the majority of cases where hospitalization was required this was recognized in the early months of treatment. In the current year 15 of the 23 patients referred to inpatient service were hospitalized within the first five months of clinic care.

In addition to preventing hospitalization we find that 13 per cent of the patients in our first year and 20 per cent of the patients in our current year have received sufficient benefit from outpatient care that they could be discharged as improved or in remission. In the current year there were 51 of these cases and improvement was apparently not related to

previous hospitalization—24 of them had 42 previous admissions and 27 of them had no previous admissions. To effect this improvement it required an average of 18 visits per patient during a period of 12 months, and medication was provided for an average of nine months per patient.

One other aspect of our experience in treating psychotic patients on an outpatient basis needs to be considered. This is the long-term treatment required to sustain a number of these patients, who do not need to be in the hospital, but who do need medication continuously to keep their symptoms under control. Of the original 81 patients, four remained in treatment two to three years, two remained in treatment three to four years, and three are continuing over four years. In the population served this last year, 23 patients have been under treatment for more than two years, and 14 of these are continuing into the future. It stands to reason that the number of these patients who must be sustained as chronically ill will continue to snowball, and some plan of medical care must be arranged for them. These patients, like those with other chronic illnesses (diabetes, epilepsy, cardiac conditions) have some degree of impairment in functioning but do not necessarily need institutional care. Providing suitable medical care, appropriate occupational activities, and a supportive environment for these patients becomes a social problem as well as a medical problem, which will require coordinated effort of various public agencies. Medical aspects of service for chronically ill mental patients could be developed as part of the chronic disease service in Public Health Departments using psychiatric consultation. An alternative would be to consider chronic mental illness as an outpatient responsibility of the State Hospital system. This has been done successfully in other states and has decreased the number of patients in State institutions considerably.<sup>2</sup>

The demonstration which the Department of Psychiatry has been conducting for the past five years in treating psychotic patients seems to have proven that (1) the majority of these patients can be sustained on an outpatient basis; (2) a worthwhile proportion of these patients achieve remission without requiring hospitalization if they can receive therapy on an outpatient basis; and (3) some patients whose illness is chronic require indefinite medical service on an outpatient basis to sustain them outside the hospital. As a teaching center we are always interested in developing more effective methods of treatment, but our ability to extend treatment to all patients who need it on a service basis is necessarily limited.

Outpatient care for psychotic patients must be recognized as a continuing and essential need. The pharmaceutical companies have provided generous subsidy to our clinic through a demonstration period, but plans for defraying the cost of medication for indigent mental patients must be developed on a more permanent basis. The 254 psychotic patients served in our clinic during the past year represent only those patients with transportation available to the medical center in Birmingham. If outpatient clinics and medication for the indigent could be established for all psychotic patients throughout the state, it would provide definite benefits for the mentally ill and would also mean considerable saving to the State in reducing hospitalization.

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# Procedures Adjuvant To Surgery In The Treatment Of Cancer

RUDOLPH G. MRAZEK, M. D.

Surgery and radiotherapy currently are the keystones in the treatment of cancer. However, the limits of ultra-radical excision have been reached and the appearance of distant metastases and of local recurrences following apparently curative resections of tumors has emphasized the failure of surgery sometimes to completely eradicate cancer.

It is the spread of a cancer away from its site of origin that accounts for most of the failures in cancer therapy and today we recognize cancer as a systemic disease with evidence of tumor cells throughout the blood, rather than a localized gross mass. Cancer can spread by contiguity through tissue planes, through the lymphatic system, through the vascular system and by implantation on serosa or mucosa.

Spread by contiguity has been well recognized and studied. Some tumors, notably basal cell carcinomas, rarely spread in any other way. Mechanical factors affect this

spread. Firm barriers such as tumor or organ capsules, fascia or bone will limit the advance. On the other hand, loose areolar tissue offers little resistance to tumor advance. Carcinoma of the bowel or esophagus can be seen to spread centimeters away from the apparent tumor border in the space between muscular layers or in the submucosa. Adequate surgical removal of these tumors must take this method of spread into account.

Spread through the lymphatic system also has been well recognized. It is well documented that this is by way of tumor emboli which pass through the lymphatics to lodge in the subcapsular portion of the nodes. These implants then are arrested for a period while they grow to finally replace the entire node. At this time further emboli to more distant nodes occur. This spread usually follows the anatomical lymph drainage of the region involved by the cancer. If, however, these channels become blocked, aberrant or retrograde spread can occur. Surgeons have recognized the lymphatic spread of cancer for generations and all current cancer operations have been designed around the principles of adequate removal of the primary tumor, the first echelon of lymph nodes and the intervening tissue.

Spread by the vascular system has only received clinical attention recently. Tumor

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Dr. Mrazek is a graduate of the University of Illinois. He is clinical associate professor of surgery at the University of Illinois, School of Medicine. He is Diplomate American Board of Surgery, member of American Association for Cancer Research, Chicago Surgical Society, Society for Surgery of the Alimentary Tract, and American College of Surgeons.



invading veins has been seen for a long time. However, the study of tumor cells in the blood stream has had to wait for the development of a practical technique for isolating the tumor cells from the other formed blood elements. Techniques for isolation of tumor cells by centrifugation and flotation at an interspace or by hemolysis of the erythrocytes and leukocytes have been developed and by using these techniques the presence of tumor cells in various blood specimens has been demonstrated. The cancer cells may be singly or in clumps. They are found in higher percentages in blood draining directly from the tumor, 52 per cent, than in peripheral blood, 36 per cent; in higher percentage in patients with advanced disease, 40 per cent, than in early disease, 27 per cent. An increased number of cells is found following manipulation or massage of the tumor. The cells have been found to disappear after removal of the primary cancer or after chemotherapy. In one patient, x-ray therapy has been shown to decrease the number of circulating cells.

There is no doubt that these cells, or at least some of them, are viable and capable of establishing metastases. The inoculation of mice with whole blood known to contain carcinoma cells is followed by the appearance of transplanted tumors. However, the presence of tumor cells in the blood does not necessarily mean that metastases will develop. As many as 51 per cent of patients exhibiting tumor cells in the blood may be alive without metastases five years after surgery.

Spread by implantation may be either spontaneous or induced by operation. Once the tumor has penetrated through the serosa, tumor cells can be found in the pleural or peritoneal fluid and multiple implants on distant serosa may occur. Washings of the wounds during resections of cancer have shown cancer cells in as high as 59 per cent of the cases. A higher percentage is found in more advanced cases. Cancer may be seeded in the wound or at the site of stitches, in skin

grafts, at the donor site or in the needle track of aspiration biopsy. Cancer cells also can be demonstrated in the bowel lumen and these may account for recurrence at the anastomotic line. These cells implant most easily on raw surfaces such as in fistulae, hemorrhoidectomy wounds and at the site of suture lines.

Another factor in the spread of cancer is the relationship of stress, operative or otherwise, to the resistance of the host to his tumor. Stress reduces the resistance of animals to tumor cells. This stress may be in the form of an operation, liver damage, anesthesia, heat or cold, dehydration or starvation. After stress of any of these types animals inoculated with tumor cells developed implants in a greater percentage of cases than their unstressed controls. The influence of stress in man may be evidenced by the instances of rapid appearances of metastases following surgery, serious illness or emotional strain.

These observations and principles are applicable to clinical surgery.

First, these principles have suggested precautions to observe during the pre-operative period. The first precaution is to minimize manipulation of the tumor. This is based on the observation that massage of a tumor in mice produced 55 per cent more metastases than were seen in undisturbed controls. Repeated palpation of a tumor by many examiners should be avoided. Secondly, there should be a minimal use of biopsy and biopsy should be followed quickly by excision of the tumor. Biopsy if possible, should be excisional. In a series analyzed at our University, patients with carcinoma of the breast who had needle biopsy followed by radical mastectomy delayed more than 24 hours, experienced a 19.5 per cent five year survival. Patients with carcinoma of the breast who had incisional biopsy, followed by delayed mastectomy, experienced a 50 per cent five year survival while excisional biopsy permitted a 72 per cent five year survival. Cutting into the tumor may multiply the chances

of cells spilling out into lymphatics and veins and therefore, if at all possible, the biopsy should encompass the entire growth.

Next, there are preventive measures which are to be used during the operation. Steps should be taken to minimize any contamination of the wound with cancer cells which may be shed from the tumor or picked up by instruments. If a tumor surface is ulcerated, as in the oral cavity, the surface should be cauterized with heat or chemicals before the excision begins. Otherwise, desquamated cells may be spread by gloves or instruments throughout the wound. Protective pads should be placed over the wound edges as rapidly as is possible, so that cells do not lodge in the incision. A tumor within the abdomen should be wrapped in gauze, especially if there has been penetration through the serosa. Instruments or retractors which have grasped the tumor should not be re-used lest they transfer cells to distant locations. Knife blades and gloves should be changed frequently or rinsed in an anti-cancer solution. The wash basin should be changed regularly as well. Cells may float in the rinse solutions and then be transferred to the wound. A recurrence at a donor site has been traced to this mode of spread. Water alone in the wash basin is not cancerocidal. Therefore, a solution such as 2 mg. per cent nitrogen mustard or 0.5 per cent sodium hypochlorite should be used. Needles and suture should not be allowed to touch the tumor or be allowed to be handled by contaminated instruments lest cancer cells be pulled into deep and safe nesting places by suturing. The wound should be protected from contamination with cancer cells with as much care as from the contents of an abscess. Similarly the cancer should be avoided and not cut into, just as strictly as one avoids rupturing an abscessed structure during its removal.

The wound should be irrigated at the close of the operation to destroy any remaining cancer cells. Many agents have been studied for this purpose. Sodium hypochlorite in a

buffered 0.5 per cent solution at pH 9 and two mgm. per cent nitrogen mustard both have been found to be effective. Large open wounds, such as those after mastectomy or neck dissections, are washed out just before closure. In abdominal incisions the solutions may be poured in before closure and left in as the wound is closed. We have seen no ill effects from these solutions when used in the proper concentrations.

Cancer cells desquamated from intraluminal tumors may become implanted at the anastomotic suture line. Cancer cells can be recovered from the bowel lumen; they are found in the highest concentration closest to the tumor. It is felt that many recurrences at the suture line are due to implantation rather than to inadequate excision of the primary tumor. There may have been an increase in incidence since the introduction of the sterile bowel prep. To avoid this the lumen of the bowel is tied off with heavy tapes above and below the tumor as soon as the bowel is mobilized. Then, before anastomosis, the open ends of the bowel are irrigated with an anti-cancer solution. Crushed bowel should not be included in the suture line for cancer cells may be imbedded. Any bowel which has been traumatized is a potential site for implantation.

After these precautions designed to prevent local recurrences one must consider measures in technique used to prevent systemic dissemination. Massaging of the tumor during skin prep should be avoided—rather than a vigorous soap and water scrub, effective skin antiseptics should be used. The incision used should be large enough to permit access to the tumor without excessive manipulation. Local anesthesia should not be injected into the tumor lest increased pressure force cells away. The tumor itself should be handled gently during mobilization. Blood vessels leading to and from the tumor should be ligated as soon as resection is decided upon. When operating upon an ex-

tremity, a tourniquet should be in place until the tumor is excised.

Lastly, there are preventive measures to be observed during the post-operative period. Since stress has been shown to decrease resistance to cancer in animals, the post-operative patient should be protected against stress as much as is possible. In addition to this, there is the use of prophylactic and adjuvant anti-cancer chemotherapy following excision of the tumor. By this is meant the injection of anti-cancer chemicals into the blood stream immediately after the removal of the tumor and again on the next few post-operative days. The purpose of this injection is to destroy cancer cells liberated during the operation and floating free in the blood or insecurely nested in the body. Investigations in rats have demonstrated that when the injection of cancer cells is quickly followed by the injection of anti-cancer chemicals the incidence of tumor "take" is reduced by as much as 73 per cent. If the agents were injected more than one hour before or six hours after the injection of the tumor cells the protective effect dropped sharply. Studies in our laboratories showed that both nitrogen mustard and thio-TEPA were effective anti-cancer agents.

We have been using nitrogen mustard in a total dose of 0.4 mgm. per kg. of body weight. This is given over a three day period. The dose should be calculated on the ideal weight of the patient to avoid relative overdosage in the obese and we have elected to give no more than 30 mgm. to any one patient. In patients with breast carcinoma, the injections are all given intravenously. In patients with intra-abdominal cancer, the dose is given partly into the portal vein and partly intraperitoneally on the day of surgery while on the succeeding days it is given intravenously. Nitrogen mustard when given in connection with a major operation is much more toxic than when given alone. Patients must be watched for evidence of bone marrow depression evidenced by leukopenia or thrombocytopenia. About one third of the patients given this

adjuvant chemotherapy experienced a leukopenia of below 3,000 white blood cells per cubic mm. which reached its maximum on the twelfth post-operative day. Other complications such as wound necrosis or separation, infection or pneumonia have not been increased in our studies.

We have been following this routine in patients with carcinoma of the breast, colon and rectum since 1956. To date there has been a diminished incidence of tumor recurrence and death from cancer in the patients receiving nitrogen mustard than in their controls in patients with cancer of the breast. This protective effect is more pronounced in the pre-menopausal patients. In patients with carcinoma of the bowel, there has been no evidence of protection. We feel that this reflects the relative ineffectiveness of any current chemotherapeutic agents against adenocarcinoma of the bowel and hope that as more effective agents appear, a protective effect will become apparent.

In summary, in the light of today's recognition of carcinoma as a widespread microscopic disease with cancer cells in the peripheral blood, rather than a localized gross mass, prophylactic and adjuvant techniques have been designed. First, during the pre-operative period, the tumor must be disturbed as little as possible and the patient's resistance kept as high as possible. During the operation, two sets of adjuvant techniques are employed. The first is designed to minimize contamination of the wound with tumor cells. The second is designed to prevent systemic dissemination. During the post-operative period adjuvant anti-cancer chemotherapy is being used in an attempt to destroy cancer cells which have been floating away from the area being resected into the general circulation.

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# Pinworm Therapy In A Pediatric Institution:

## Report Of A Clinical Study

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### Introduction

Pinworm infestation is a widespread, unresolved problem for pediatric institutions. A variety of estimates in specific areas suggests that its incidence in the pediatric population of the United States generally is about 30 per cent,<sup>1-3</sup> though both Faust and Russell<sup>4</sup> and Litter<sup>5</sup> believe that this is an underestimate. It is certainly higher in pediatric institutions, both because of its infectious nature among children in particular and because of the difficulties of mass diagnosis and eradication.

The wide spectrum of symptoms associated with pinworm infestation complicates rather than simplifies diagnosis, since these symptoms are non-specific and can simulate almost any condition. The only specific diagnosis is the presence of the pinworm itself, or of its ova. In only five per cent to ten per

cent of cases of oxyuriasis, however, are worms actually seen or ova found in stool examination.<sup>6</sup> The diagnostic procedure generally accepted today for determining the presence of pinworm infestation is the anal swab.

Though the current scotch-tape technique for anal swabbing is simple, a single swab is not always sufficient for definitive diagnosis. Mathies reports, for example, that 36 out of 94 children in an orphanage who were negative on a single swab proved to be infected on at least one of seven swabs taken two weeks later.<sup>7</sup> Hence it is advisable, in institutions as in families, to treat the entire population involved where any of its members are found to be infested. This complicates the problem of therapy since the chief therapeutic agents available are piperazine, which requires a seven-day course of treatment, and pyri-vinium pamoate, a cyanine dye, which causes a rather larger incidence of undesirable side effects<sup>8</sup> as well as discoloration of underclothes and bed linens. The seven-day course of therapy with piperazine, aside from being

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difficult to handle on a mass scale required in institutions, also has the drawback of possible cross-infection during the therapeutic regimen itself. Efforts to reduce the period of treatment with larger dosages of piperazine have resulted both in loss of effectiveness and an increase in side effects.<sup>7</sup>

These therapeutic difficulties, combined with the ease of reinfestation and the apparently mild consequences of the condition, have resulted in a tendency to pay little attention to pinworm infestation in institutions. It is generally recognized that oxyuriasis commonly results in pruritus ani, with occasional excoriation of the perianal area due to scratching; in disturbed sleep; and in such behavioral manifestations as restlessness, teeth-grinding and inattention. More serious neurological symptoms and vaginal disturbances have been reported,<sup>6</sup> but these have been considered rare occurrences. Some investigators maintain that from five per cent to ten per cent of all appendicitis cases are related to the pinworm,<sup>9,10</sup> but others insist that the pinworm's presence in the appendix may simulate symptoms but is no evidence of a causal relationship.<sup>11</sup>

In a recent review of his own findings over ten years, as well as the findings of others, Litter warns, however, that the pathological consequences of pinworm infestation are considerably more widespread and varied than generally realized.<sup>5</sup> In his series of 150 proven cases of children with oxyuriasis, electroencephalograms revealed occipital dysrhythmias in 63, or 42 per cent. He notes that 75 per cent of children between six and one-half and seventeen years with this type of dysrhythmia have demonstrated aggressive clinical behavior, including severe school and play maladjustments. Following successful anthelmintic therapy, there was disappearance or diminution of the dysrhythmia in nearly half of the 63 patients who had it. This observation is, of course, of particular interest to pediatric institutions where difficult behavior patterns present a special problem, and where this relationship between pin-

worm infestation and such patterns may often be overlooked. Litter likewise lists, and discusses, a wide variety of other pathological manifestations which have been observed in patients with pinworm and have cleared up or improved with anthelmintic treatment. He concludes with a warning against underestimating the pinworm, and suggests the necessity for better-tolerated and more efficient anthelmintics than have been developed to date.

Since the optimum in efficiency for the mass therapy required in pediatric institutions would be an efficacious single-dose medicament with a minimum of side effects, our interest was aroused by recent reports in the literature of a combined piperazine-senna preparation\* which resulted in cure rates of more than 90 per cent with a single dose.<sup>8,12,13</sup> The senna, in standardized form, reportedly promotes peristalsis through stimulation of Auerbach's plexus, thereby hastening expulsion of the worms narcotized by the piperazine.<sup>12</sup>

### Method and Materials

A preliminary study of the new piperazine-senna preparation was initiated in an orphanage among 102 children with a positive diagnosis of oxyuriasis, as determined by anal swab. The children ranged in age from six to 18 years; seven were less than eight years old; 76 were eight through 13 years; and 19 between 14 and 18 years. There were 61 females and 41 males. The diagnostic swabs were administered by the usual cellulose tape technique early in the morning, upon awakening, to all children domiciled in rooms (eight beds in a room) in which overt symptoms of pinworm infestation were present in one or more residents. Of the 112 children in the rooms involved, ten had negative diagnostic swabs and were not included in the

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\*Supplied as Pripsen Granules® by the Medical Department of The Purdue Frederick Company, New York, N. Y.

study. The others were given the medication in the evening, one to two days after the initial swab, according to the following dosage schedule: children under eight years of age, and small children of eight years, were given two vials of the preparation, (each vial contained 1 gm. of piperazine phosphate and the equivalent of 7.5 mg. of sennosides A and B); children from eight through 13 years were given three vials; children of 14 years and over were given four vials. The preparation was in the form of chocolate-flavored granules. Post-treatment anal swabs were taken early each morning, on awakening, for seven consecutive days, starting one week after therapy. If all seven swabs were negative, as determined by a laboratory technician, the patient was evaluated as cured. If one or more swabs were positive, the treatment was adjudged a failure.

### Results

Of the 102 children involved in the study, two left the institution before the course of

seven post-treatment swabs was completed. Since there was no positive post-treatment swab in either case, they were eliminated from the evaluation of results. Of the 100 children who were given all seven post-treatment swabs, 84 were evaluated as cured—a cure-rate of 84 per cent. An examination by sex and age indicated that females had a higher rate of positive pre-treatment swabs and a higher rate of treatment failures (Table I); and the rate of positive pre-treatment swabs and treatment failures was highest in the lowest age group and lowest in the highest age group. Though the number of patients was obviously too small for definitive conclusion, this tended to confirm the generally accepted view that pinworm infestation is greatest among younger children,<sup>7</sup> and the somewhat less generally accepted view that it is more prevalent among females.<sup>1</sup>

### Comment

Though the cure rate in this study was somewhat lower than the 93 per cent to 97

Table I

*Results of Therapy for Oxyuriasis with a Piperazine-Senna Preparation,  
Among Children in a Pediatric Institution*

Age Group	No. Diagnosed			No. Found Positive in Pre-Treatment Swabs			No. Cured*		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
Under 8 years	3	4	7	3 (100%)	4 (100%)	7 (100%)	2 (67%)	3 (75%)	5 (71%)
8-13 years	41	44	85	36 (88%)	41 (93%)	77 (91%)	32 (89%)	30** (75%)	62** (82%)
Over 13 years	2	18	20	2 (100%)	16 (89%)	18 (90%)	2 (100%)	15** (100%)	17** (100%)
Totals	46	66	112	41 (89%)	61 (92%)	102 (91%)	36 (88%)	48 (81%)	84* (84%)

\*Out of 100 cases. Two female patients left the institution before evaluation.

\*\*Female patient left institution.



per cent achieved in the previously-cited studies with the piperazine-senna preparation, it was superior to that experienced by us with other agents for the treatment of oxyuriasis, and comparable to the cure rate experienced by others with multiple-dose piperazine. Thus, a recently-reported New England study of piperazine citrate administered in varied multiple doses to children in an orphanage gave a cure rate of 85 per cent.<sup>7</sup> The advantages of single-dose treatment are obvious, particularly where mass therapy in an institution is involved.

In this preliminary test no attempt was made to treat the entire population of the institution as a prophylactic measure. Yet, for effective eradication of pinworm, it would appear advisable to do this routinely on an annual basis. A major drawback to such a routine procedure has been the lack of an effective agent with a simple dosage schedule, easily administered and readily accepted by young children as well as older ones, and free of significant side effects. From this study, it appeared that the test preparation might well meet these requirements, though a second dose administered two to three weeks after the first one might prove necessary both to cure treatment failures and to guard against reinfestation from these failures.

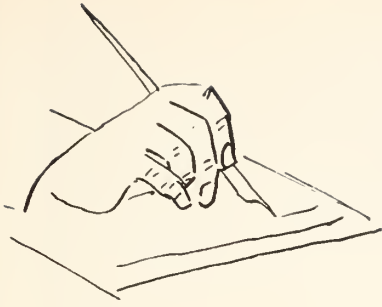
### Summary

Pinworm infestation, an unresolved and widespread problem for pediatric institutions, may have more serious pathological consequences than is generally realized. Existing therapeutic agents, while effective in the eradication of the parasite, have drawbacks which make their employment in mass therapy especially difficult. A new piperazine-senna preparation reported to be highly effective with a single dose and relatively free of side effects, was tested in an orphanage among 102 children with positive diagnosis of pinworm. The cure rate with a single dose was 84 per cent, comparable to the rate

achieved elsewhere with multiple-dose administrations of piperazine alone. The only reported side effects were two cases of transient nausea, or two per cent of the total. The dosage schedule was simple, and the medication was both readily accepted and easily administered. The results of the study suggest that this preparation may be suitable for eradication of pinworm infestation through mass prophylactic treatment of entire populations of pediatric institutions on a routine annual basis.

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## Editorials

### MAKE HASTE SLOWLY

The Interim Committee on Mental Health of the State Legislature is considering certain far-reaching changes in the mental health program in Alabama. For example, it has been proposed that all mental health activities be placed under one central authority and that this authority be of Governor's Cabinet rank. This proposal would take the mental health clinics from under the supervision of the State Health Department and would also place the Commission on Alcoholism under this central authority. Further, it is proposed to increase the size of the Board for mental health programs to eighteen and separate the management of Partlow's School from that of Bryce Hospital and Mt. Vernon Hospital.

The State Board of Censors considered the matter and made the following statement to the Interim Committee:

It is our opinion that all matters of health within the State of Alabama, including mental health programs, should be fitted into the framework of the State Board of Health and the Medical Association of the State of Alabama.

It is suggested that legislative action in the area of mental health be deferred to allow sufficient time for the Mental Health Authority of the State of Alabama to recommend, after study, a plan to provide a comprehensive and unified mental health program for this state. Funds for implementation of this study are available and were provided on January 9, 1963, by the Surgeon General of the United States Public Health Services

to all states. The State Board of Health is the designated Health Authority for Alabama.

The State Health Officer was also asked to make a statement before the committee, and a copy of his statement will be found on page 285 of this issue of the *Journal*.

The Interim Committee plans to have its proposal in the form of a legislative bill by April 1. Even so, it is hoped that the Legislature will not take precipitate action on a matter as encompassing as this. Sometimes it is advisable to *make haste slowly*.

### NEW SCIENTIFIC JOURNAL

The University of Alabama Medical Center will begin publication of a scientific journal in September, 1963. The announcement came from Dr. Joseph F. Volker, Vice President for Health Affairs, who said the quarterly would be called *The Alabama Journal of Medical Sciences*.

The Journal, marking the first publishing venture of this nature for the Medical Center, will be divided into the following sections: Scientific, methods and techniques, general reviews, biographies, book reviews, and alumni news items.

Dr. Emmett B. Carmichael, Assistant Dean of the Medical and Dental Colleges, will be editor. Serving on the editorial board will be Drs. John M. Bruhn, Kendrick Hare, Howard L. Holley, Thomas E. Hunt, Leon H. Schneyer, Arthur H. Wuehrmann, John J. Sharry; and James E. Crank, Associate Administrator of University Hospital.

*Guest Editorial*

## CONTINUING MEDICAL EDUCATION

*May there never develop in me the notion that my education is complete, but give me strength and leisure and zeal continually to enlarge my knowledge.*

*(From Maimonides' "Daily Prayer of a Physician")*

The Flexner Report of 1910 was precipitated by the fact that scientific knowledge was not being translated into medical practice by the then-existing system of medical education. The gap between what was known and what was taught was unnecessarily wide. Revolutionary changes in medical education resulted in improved standards of our medical schools.

Now, more than fifty years later, the gap between accumulating knowledge and the practitioner's ability to use it is again widening, but for different reasons than those of 1910. Progress within medicine and within society itself accounts for our present dilemma. We in the medical profession are weighted down by the fruits of progress. Improved methods of interpretation, communication, and self-education must be sought to keep abreast of this constantly enlarging body of knowledge.

The development of a program to make continuing medical education easily available to every physician challenges the imagination. Comprehensive educational programs which effectively interpret the changing body of medical knowledge in a manner appropriate for mature members of a learned profession are necessary. Methods of transmission or delivery which meet the practical considerations of the physician's every day situation must be sought.

That the physicians of Alabama recognize their commitment to "Lifetime Learning" is manifest by the ready response to a recent questionnaire. Six hundred and thirty-two of the 670 returned reports indicate an active interest in the development of such a program at the University of Alabama Medical Center. Many took time to write accompany-

ing letters with additional helpful suggestions and ideas.

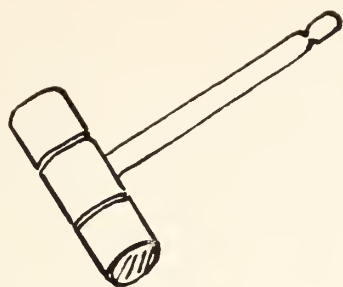
The abundance of literature, conferences, and lectures on methodology of continuing medical education makes one point apparent—there is no definite answer as to the best or right way to meet this need of the practicing physician. Methods suitable for medical students, to whom the whole subject is new, are not applicable to groups of men and women whose informational needs differ one from another and whose private, institutional, and organizational learning endeavors must be superimposed upon a 60 to 80 hour work week. Opportunities between practitioners and preceptors for discussions, questions, exchange of ideas, and self-evaluation are essential in such a program.

The Division of Continuing Medical Education of the Medical College of Alabama, in conjunction with other health groups and departments of the Medical College, will offer two, and possibly three, programs within the next few months. Extramural programs are to be added within the year. Working closely with the Advisory Committee to the Medical College of the Medical Association of the State of Alabama and the Alabama Academy of General Practice, gradual expansion of the program is being planned. Exploration into other—sometimes yet untried—methods and techniques of subject presentation is anticipated.

It is our goal that practitioner and preceptor share in improved, informative, and acceptable learning experiences, which in turn serve the ultimate objective of all medical education—to improve the quality of medical care.

**Margaret S. Klapper, M.D., Birmingham, Alabama**





# President's Page



## KERR-MILLS--MEDICINE'S BILL--YOUR BILL



*Dr. Sam Evans, M.D.*

Kerr-Mills is so important to the medical profession, yet is so poorly understood by the practicing physician, that some explanation of the principal features under which it operates should be discussed.

Kerr-Mills was enacted into law (Public Law 86-778) by amending Title I of the Social Security Act. It became effective October 1, 1960.

The Kerr-Mills Act has a two-pronged ap-

proach toward solving the medical care problems of citizens 65 years and older in need of medical care.

The first part improved existing programs and started some new regulations for persons presently receiving OLD AGE ASSISTANCE BENEFITS—those on WELFARE—OAA.

The second phase of Kerr-Mills approved medical care for those 65 and older who were NOT ON WELFARE BENEFITS but were in

need of medical care—MEDICAL ASSISTANCE FOR THE AGED—MAA.

Later in this article you will find a summary of the releases from the State Department of Public Health stating benefits provided under OAA and MAA.

You should clearly understand that the passage of the Kerr-Mills Act actually caused the defeat of the Forand Bill (1960-1961) and was instrumental in defeating King-Anderson in 1962. Many senators and congressmen wanted more experience and further implementation, with some modification of Kerr-Mills to help take care of those who needed help—and in a voluntary manner.

### **The Alabama Plan**

A limited plan for old age pensioners was started on April 1, 1961. It covered ten days hospitalization for acute illness and accidents. On October 1, 1961, the hospitalization program was increased to 15 days. The Medical Assistance for the Aged program was not started until February, 1962.

The State Health Department has entered into a contract with the State Department of Pensions and Security to provide medical supervision of the Kerr-Mills program. This has been done with the advice and counsel of the State Board of Censors, your State Committee on Indigent Care, and a Special Committee on Physicians Fees from the Medical Association.

### **Subject: Revisions In OAA and MAA Programs, Effective October 1, 1962.**

Persons eligible for hospitalization through the Medical Assistance to the Aged may now receive a maximum of 30 days in the hospital where previously only 15 days had been allowed during any one year. (OAA also includes benefits of 30 days hospitalization.)

Certain specific suggestions for cataract surgery and cancer treatment, where aid is not available from some other source, will be

covered. (Please check with the Department of Public Health for specific details.)

### **Subject: Limited Payments For Physicians Services.**

October 1, 1962. Physicians may claim limited payments for office or home visits and certain specified services to persons who have been hospitalized under the Old Age Pensioners Program (OAA—sometimes called HOAP in Alabama) or the Medical Assistance to the Aged (MAA) Program. These office or home visits must be made within thirty days following the patient's discharge from the hospital, and the visits must be related directly to the cause for hospitalization. The maximum fee is \$5, and this applies to home visits as well as to office visits. (It should be clearly understood that the physician must agree not to charge the patient any additional amount for the service.)

### **Subject: Provision For Physicians Services To Old Age Pension Recipients In Nursing Homes.**

Beginning January 1, 1963, the Pensions and Security Department will pay for nursing home visits at the rate of one visit during each quarter at the rate of \$5 per visit. This of course is with the knowledge and understanding that the patient is on Old Age Pension (OAA). Special forms should be completed at the time of the visit and forwarded to the county office of Pensions and Security for certification.

The intent of this program, which was sponsored by the Medical Association of the State of Alabama, is to provide nursing home patients with the means of securing the services of the private physician of their choice on a regular basis.

### **Subject: Medical Assistance For The Aged (MAA)**

Who is eligible to receive financial help under the Medical Assistance for the Aged

Program? A person who is 65 years or older and not receiving old age pensions (OAA) and in need of medical care.

Under the rules set up by the State of Alabama a person is eligible to receive financial assistance under MAA if he has a homestead, resides in Alabama, has \$1200 a year income (\$1800 if married and living together) from property and other resources used in a business which makes a profit. These are the principal qualifications necessary for receiving Medical Assistance. (See Welfare Department for complete rules.)

Where can a person apply for Medical Assistance for the Aged? At the Department of Pensions and Security *in the county* in which he lives. He must present evidence that he needs hospitalization or will need it within 30 days.

In the chart below you see the unofficial figures of the State Department of Public Health with particular emphasis on the utilization of services under Kerr-Mills Act. You will observe that the program reached its highest peak in December 1962.

Dr. Ira L. Myers, State Health Officer, stated that physician participation is increasing slowly, which is an indication of acceptance by the medical profession. **PHYSICIAN ACCEPTANCE OF THIS VOLUNTARY GRANT-IN-AID PROGRAM, BY THE STATE AND FEDERAL GOVERNMENT, IS**

**IMPERATIVE IF VOLUNTARY MEDICINE IS TO SURVIVE.** It is your duty and responsibility to familiarize yourself, and your secretary, with this OAA and MAA program so that your patient will be able to participate in this most important program.

A better understanding between the physician and the Department of Pensions and Security at the local level is highly desirable if you are to serve your public. A knowledge of the problems and responsibilities of each will facilitate an improved service to the individual patient who is already sick, in financial difficulty, and considerably worried. The least you can do, in many instances, is to be kind and considerate of those less fortunate than yourself. It is a great feeling; try it at the next opportunity, and you will receive your reward—deep in your heart.

HOAP (OAA)  
Hospitalization

1961	No.	
April	391	\$ 52,260.80
May	742	112,576.80
June	846	122,634.27
July	1026	153,389.98
Aug.	952	143,241.57
Sept.	1064	159,181.81
Oct.	1197	201,674.28
Nov.	1301	242,023.28
Dec.	1204	230,235.62

1962			MAA Hospitalization		Physicians Services HOAP MAA			
			No.	\$	No.	\$	No.	\$
Jan.	1455	\$262,962.33						
Feb.	1506	276,654.92	17	\$ 2,911.62	4	40		
Mar.	1702	315,844.71	158	32,767.62	145	1579	7	81
April	1384	250,739.29	131	27,614.85	148	1666	13	134
May	1530	276,981.63	137	27,463.97	157	1628	20	235
June	1590	299,956.06	146	29,476.93	149	1678	26	315
July	1766	381,085.76	161	36,249.17	164	1828	18	215
Aug.	1604	375,235.19	184	42,696.28	140	1665	22	246
Sept.	1651	372,499.96	160	39,706.18	169	2066	25	296
Oct.	1635	370,357.38	167	40,688.40	138	1640	19	209
Nov.	1343	314,775.45	145	42,168.57	107	1290	7	100
Dec.	1964	465,235.12	233	69,214.21	181	2179	31	352





# ORGANIZATION SECTION

## PROGRAM

### Of The 102nd Annual Session Of The MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

**Mobile**

**Admiral Semmes Hotel**

**April 25, 26, 27, 1963**

#### GENERAL INFORMATION

All sessions of the Association and exhibits will be at the Admiral Semmes Hotel, convention headquarters.

The maximum time consumed by essayists should not exceed **twenty minutes**. This time limit, however, does not apply to invited guests. It is suggested that the salient features of papers be presented within this time, reserving the complete elaboration for publication in the Journal of the Association.

All papers read before the Association should be deposited with the Secretary when read; otherwise, their publication may be delayed.

Papers will be called in the order in which they appear on the program. Should the reader be absent when called, his paper will be passed, and called again when the program is concluded.

#### REGISTRATION

The registration desk will be on the mezzanine floor of the hotel. Be sure to register.

#### THE FIFTY YEAR CLUB

According to custom, physician members who graduated fifty years ago will be honored by the Association at this meeting. Their names appear in the program.

#### HOST TO THE ASSOCIATION

The Medical Society of Mobile County

#### OFFICERS

James H. Erwin, *President*  
Daniel F. Sullivan, *President-Elect*  
George W. Newburn, Jr., *Secretary*  
William P. Coats, *Treasurer*  
Herbert V. Allen, *Librarian*

#### BOARD OF CENSORS

Clement A. Lightcap, *Chairman*  
Philip P. Gilchrist      Robert O. Harris  
William T. Wright      Thomas D. Davis

#### COMMITTEES

George W. Newburn, Jr., *Chairman*  
Clement A. Lightcap, *Co-Chairman*

#### Hotel

John F. Shriner, *Chairman*  
Gordon Carroll, *Co-Chairman*

#### Transportation

Neal S. Flowers, *Chairman*  
Harry N. Webster, Jr., *Co-Chairman*

# PROGRAM OF THE ANNUAL SESSION

## Entertainment

Albert C. Haas, *Chairman*  
James F. Dumas, *Co-Chairman*  
David M. Mullins      Jephtha Cobb  
Hugh Reynolds      Frederick DeVane  
James Sewell      Howard Walker, Jr.

## Program

M. Vaun Adams, *Chairman*

## Golf

Edwin D. Morton, *Chairman*  
Guy L. Rutledge, Jr., *Co-Chairman*

## Boating and Fishing

Clarence V. Partridge, *Chairman*  
Henry M. Gewin, *Co-Chairman*  
J. Richard Moore      E. E. Coleman, Jr.  
N. L. Brown

## Commercial Exhibits

G. William Wiles, *Chairman*  
Max V. McLaughlin, *Co-Chairman*  
Curtis A. Smith      June McCafferty  
W. Harold Avant

## Hall

Herbert V. Allen, *Chairman*  
Church Murdock, Jr., *Co-Chairman*  
Earl Wert (Lights, Call System, Projectors)

## Publicity

Howard Walker, Jr., *Chairman*  
S. N. Rumpanos, *Co-Chairman*

## Finance

James G. Donald, *Chairman*  
John W. Donald, *Co-Chairman*

## Special Awards

William Sellers, Jr., *Chairman*  
Daniel F. Sullivan, *Co-Chairman*  
Claude M. Warren      E. Jean Cowser

## Women's Activities

Mrs. Jack Yeager, *Chairman*  
Mrs. B. B. Kimbrough, *Co-Chairman*  
Mrs. William P. Baston, *Co-Chairman*

## Hospitality

C. M. Walsh, III, *Chairman*  
Theo F. Middleton, *Co-Chairman*  
William T. Wright      William J. Wetta  
Van D. Chunn, Jr.      O. M. Otts, Jr.

## Hospitality (Continued)

W. J. Atkinson, Jr.	James T. Baker
William P. Baston	E. L. Brown
James W. Coker, Jr.	Eugene DeJuan
Samuel Eichold	Philip P. Gilchrist
Clyde Glover	A. D. Henderson
V. H. Hill	Walter L. Hogan
C. J. Hollis	Jack Hyman
Samuel P. Marshall	Dixon Meyers
Nick C. Nichols	William E. North
Sidney C. Phillips	Louis Raider
Samuel Romendick	Lloyd W. Russell
Francis W. Sullivan	Thomas H. Taylor
William H. Tucker	Hollis J. Wiseman
Jack O. Yeager	Howard Leonard

## OFFICERS OF THE ASSOCIATION

### President

M. Vaun Adams.....Mobile

### President-Elect

J. G. Daves.....Cullman

### Vice-Presidents

J. A. Brantley.....Troy  
H. G. Hodo, Jr.....Fayette  
E. L. Strandell.....Brewton  
J. H. Meigs.....Anniston

### Secretary-Treasurer

William L. Smith.....Montgomery

### Executive Secretary

W. A. Dozier, Jr.....Montgomery

### Executive Assistants

W. V. Wallace.....Montgomery  
M. R. Crawford.....Montgomery

### The State Board of Censors

J. Paul Jones, *Chairman* (1966).....Camden  
J. O. Finney (1963).....Gadsden  
J. Mac Barnes (1963).....Montgomery  
W. S. Littlejohn (1964).....Birmingham  
G. O. Segrest (1964).....Mobile  
J. G. Daves (1965).....Cullman  
J. M. Chenault (1965).....Decatur  
P. W. Burleson (1966).....Birmingham  
Robert Parker (1967).....Montgomery  
J. P. Collier (1967).....Tuscaloosa

### State Health Officer

Ira L. Myers.....Montgomery

### Delegates and Alternates to the American Medical Association

Delegate—M. Vaun Adams.....Mobile  
Alternate—L. L. Hill.....Montgomery  
(Term: January 1, 1962—December 31, 1963)  
Delegate—John M. Chenault.....Decatur  
Alternate—William L. Smith.....Montgomery  
(Term: January 1, 1962—December 31, 1963)  
Delegate—E. Bryce Robinson.....Fairfield  
Alternate—W. E. White.....Anniston  
(Term: January 1, 1963—December 31, 1964)

# PROGRAM

## First Day, Thursday, April 25

Ballroom A

### Morning Session

9:00 A. M.

Call to order by President—

*M. Vaun Adams, M. D., Mobile*

Invocation—

*Massey Mott Heltzel, D. D., Minister, Government Street Presbyterian Church, Mobile*

Addresses of Welcome—

*James H. Erwin, M. D., President, Medical Society of Mobile County*

*The Honorable George McNally, City Commissioner of Mobile*

Announcement—

*William L. Smith, M. D., Secretary, Medical Association of the State of Alabama*

### ORIENTATION PROGRAM

J. G. Daves, M. D., President-Elect, Presiding

9:20 A. M.—Duties of State Board of Censors

Duties and Responsibilities of State Health Officer—J. P. Collier, M. D.

9:30 A. M.—Tuberculosis, Cancer, Heart, and Venereal Disease Programs of the State—W. H. Y. Smith, M. D., Director, Bureau of Preventable Diseases, State Department of Public Health.

9:45 A. M.—Blue Cross-Blue Shield—How it Helps—How to Kill it—William H. Mandy, Physicians Relations Manager, Blue Cross-Blue Shield of Alabama

10:00 A. M.—Medical Malpractice—C. B. Marshall, Liberty Mutual Insurance Company

10:15 A. M.—The Doctor and Law Enforcement: Responsibility to Report Violations of the Law—Daniel T. McCall, Jr., Judge, Circuit Court, Thirteenth Judicial Circuit

10:30 A. M.—Alabama Medical Organization—Where Dues Go—William A. Dozier, Jr., Executive Secretary

10:45 A. M.—Services rendered by State and County Health Departments—Programs of State Health Department—Ira L. Myers, M. D., State Health Officer

### SCIENTIFIC PROGRAM

J. H. Meigs, M. D., Vice-President, Presiding

1. *Educational Opportunities at the Medical College of Alabama*

S. RICHARDSON HILL, M. D.,  
Dean, Medical College of Alabama,  
Birmingham, Alabama

2. *The Medical Center in the Next Decade*

JOSEPH F. VOLKER, D. D. S.,  
Vice President in Charge of Health Affairs for  
the University of Alabama  
Birmingham, Alabama

3. *The Goals of Modern Education—*

FRANK A. ROSE, LL.D.,  
President, University of Alabama  
University, Alabama

4. *Seale Harris: Physician-Scientist-Author—*

EMMETT B. CARMICHAEL, Ph.D.,  
Assistant Dean,  
Medical College of Alabama,  
Birmingham, Alabama

### SECTION MEETINGS

Thursday, April 25

Section on Surgery—2:00 P. M.

Wallace Pitts Room 12th Floor

1. *Problems Associated with the Diagnosis and Management of Carcinoma of the Colon and Rectum*

JAMES G. DONALD, M. D.  
Surgeon  
Mobile, Alabama

2. *Surgical Problems in Massive Gastrointestinal Bleeding*

JOHN M. SLAUGHTER, M. D.  
Surgeon  
Fairfield, Alabama

3. *Cervical and Brachial Plexus Pain*

J. GARBER GALBRAITH, M. D.  
Neurosurgeon  
Birmingham, Alabama

4. *Diagnosis and Treatment of the Unusual Manifestations of Cancer of the Lung*

WILLIAM LOGAN, M. D.  
Emory University Clinic  
Atlanta, Georgia

INTERMISSION



## PROGRAM OF THE ANNUAL SESSION

5. *Surgical Treatment of Vascular Disorders: A Reappraisal*  
OSCAR CREECH, JR., M. D.  
Professor of Surgery  
Tulane University School of Medicine  
New Orleans, Louisiana

6. *Venous Thromboembolism*  
JOHN M. CAMERON, M.D.  
Surgeon  
Montgomery, Alabama

### Section on Obstetrics and Pediatrics—2:00 P. M.

Alabama Room 1st Floor

1. *Obstetrical Problems Affecting the Newborn (Hemorrhage, Toxemia, Hypertension, Infection, Premature Rupture of the Membranes)*—  
EDWARD J. QUILLIGAN, M. D.  
Professor of Obstetrics and Gynecology  
Western Reserve University  
Cleveland, Ohio

2. *Neonatal Gemellology*  
WILLIAM A. SILVERMAN, M. D.  
Professor of Pediatrics, College of Physicians and Surgeons  
Columbia University  
New York, New York

INTERMISSION 3:15 P. M.

3. PANEL DISCUSSION  
*Joint Obstetric and Pediatric Problems*—  
Edward J. Quilligan, M. D., Cleveland, Ohio  
William A. Silverman, M. D., New York, New York  
Theo F. Middleton, M. D., Mobile, Alabama  
Daniel F. Sullivan, M. D., Mobile, Alabama

### Section on Medicine—2:00 P. M.

Ballroom A

1. *Rehabilitation in Severe Respiratory Insufficiency*—  
BEN V. BRANSCOMB, M. D.  
Department of Medicine  
Medical College of Alabama  
Birmingham, Alabama
2. *Hepatic Structure and Function in Health and Disease*  
CHARLES M. CARAVATI, M. D.  
Professor of Clinical Medicine and Chairman, Department of Gastroenterology  
Medical College of Virginia  
Richmond, Virginia
3. *The Uremias*—  
THOMAS P. FINDLEY, JR., M. D.  
Professor and Chairman  
Department of Medicine  
Medical College of Georgia  
Augusta, Georgia

4. PANEL DISCUSSION  
*Newly Recognized Syndromes in Medicine*  
Chairman—Edgar Hull, M. D.  
Professor and Chairman  
Department of Medicine  
Louisiana State University School of Medicine  
New Orleans, Louisiana  
Thomas P. Findley, Jr., M. D.  
Augusta, Georgia  
Charles M. Caravati, M. D.  
Richmond, Virginia  
Ben V. Branscomb, M. D.  
Birmingham, Alabama  
Walter B. Frommeyer, Jr., M. D.  
Birmingham, Alabama

*Supported by a Grant from The Merck Sharp & Dohme Postgraduate Program*

### Second Day, Friday, April 26

Ballroom A

#### Morning Session

9:00 A. M.

M. Vaun Adams, M. D., President, Presiding

1. Introduction of Essay Contest Winner by Mrs. William J. Rosser, Birmingham, State Chairman
2. *The Prophylactic Catheter*  
EDWARD J. QUILLIGAN, M. D.  
Professor Obstetrics and Gynecology  
Western Reserve University  
Cleveland, Ohio
3. Mrs. John M. Kimmey  
President, Woman's Auxiliary to the Medical Association of the State of Alabama, Elba, Alabama  
Mrs. William G. Thuss  
President, The Woman's Auxiliary to the American Medical Association, Birmingham, Alabama

#### 4. RECOGNITION OF THE FIFTY YEAR CLUB

10:30 A. M.

J. A. Brantley, M. D., Vice-President, Presiding

5. *The President's Message*—  
M. VAUN ADAMS, M. D.  
Mobile, Alabama
6. AMPAC AWARD TO S. BUFORD WORD, M. D.
7. THE JEROME COCHRAN LECTURE:  
*Medical Education and Medical Practice—Expectations and Realities*  
HUGH H. HUSSEY, M. D.,  
Director of the Division of Scientific Activities of American Medical Association, Chicago, Illinois
8. RECOGNITION OF FRATERNAL DELEGATES
9. MEETING OF COUNSELLORS AND DELEGATES

# PROGRAM OF THE ANNUAL SESSION

## Afternoon Session

Friday, April 26

2:00 P. M.

H. G. Hodo, Jr., M. D., Vice-President, Presiding

1. *Neonatal Climatology*  
WILLIAM A. SILVERMAN, M. D.  
Professor of Pediatrics  
College of Physicians and Surgeons  
Columbia University,  
New York, New York
2. *Medicine Must Speak Out on the Health Care Issue*  
Edward R. Annis, M. D.,  
President Elect  
American Medical Association  
Miami, Florida
3. DOUGLAS L. CANNON MEDICAL REPORTER AWARD
4. MEDICAL, HOSPITAL, AND VOLUNTARY INSURANCE PROBLEMS  
Moderator—Howard O. Brower  
Assistant Secretary  
Council on Medical Service  
American Medical Association  
Chicago, Illinois  
William E. Miller, Jr.,  
Assistant to Executive Vice President  
National Association of Blue Shield Plans  
Chicago, Illinois  
Ennion S. Williams, M. D.  
Vice President and Medical Director  
Life Insurance Company of Virginia  
Richmond, Virginia  
James Ensign  
Director of Professional Relations  
Blue Cross Association  
Chicago, Illinois  
Matthew F. McNulty, Jr.  
Administrator and Professor of Hospital Administration  
University Hospital and Hillman Clinic  
University of Alabama Medical Center  
Birmingham, Alabama

4:00 P. M.

E. L. Strandell, M. D., Vice-President, Presiding

5. *Recent Developments in Management of Venous Thrombosis and Pulmonary Embolism—*  
OSCAR CREECH, JR., M. D.  
Professor of Surgery  
Tulane University School of Medicine  
New Orleans, Louisiana
6. *The Management of Gastric Ulcer—*  
CHARLES M. CARAVATI, M. D.  
Professor of Clinical Medicine and Chairman,  
Department of Gastroenterology  
Medical College of Virginia  
Richmond, Virginia

ADJOURNMENT

## Last Day, Saturday, April 27

9:00 A. M.

Ballroom A

Business Meeting of the Association sitting as the Board of Health of the State of Alabama:

- (1) Report of the Board of Censors;
- (2) Revision of the Rolls:
  - (a) County Societies,
  - (b) Counsellors,
  - (c) Correspondents;
- (3) Election and Installation of Officers
- (4) Presentation of Past President's Plaque

ADJOURNMENT

## THE FIFTY YEAR CLUB

Class of 1963

(To whom Certificates of Distinction will be awarded on Friday morning before the Jerome Cochran Lecture.)

William S. Armour.....	Birmingham
Joseph T. Banks .....	Dadeville
Harry R. Cogburn .....	Mobile
Robert B. Dodson.....	Cullman
Daniel B. Faust .....	Montgomery
James R. Garber.....	Birmingham
Edward L. Gibson .....	Enterprise
Claude D. Killian .....	Fort Payne
Marion A. Kirklin .....	Prichard
James H. Kyzar .....	Andalusia
John R. Manley .....	Roanoke
James A. Miller.....	Birmingham
Maxwell Moody .....	Tuscaloosa
Cooper Nicholson .....	Centreville
James W. Terrill.....	Birmingham
Howard S. J. Walker.....	Mobile
Hinton W. Waters.....	Opp
Lee Weathington.....	Boaz
Joseph M. Weldon.....	Mobile

## VACANCIES IN THE COLLEGE OF COUNSELLORS

1st Congressional District—2. J. H. Baumhauer has completed his second term of seven years. J. Paul Jones is to be elevated to Life Counsellor.

2nd Congressional District—4. R. W. Stallworth has completed his first term of seven years. J. M. Barnes has completed his second term of seven years. J. O. Lisenby and F. W. Riggs are to be elevated to Life Counsellor.

6th Congressional District—3. D. R. Ramey, Jr. and S. J. Williams have completed their first term of seven years. R. C. Partlow is to be elevated to Life Counsellor.

9th Congressional District—4. J. L. Carmichael has completed his first term of seven years. G. A. Denison and Hughes Kennedy, Jr. are to be elevated to Life Counsellor. Under reapportionment of Counsellors by the State Board of Censors, the district is allotted a counsellorship to which it is entitled.

## SOCIAL EVENTS

**Wednesday, April 24**

### Physician's Golf Tournament

Physicians are invited to compete for golf trophies at the Mobile Country Club. Tournament rounds will begin at 8:00 A.M.

**Thursday, April 25**

Members of the Association and their guests will be entertained at a party at the Skyline Country Club.

**Friday, April 26**

Members of the Association and their guests will be entertained at the Presidential Ball at the Mobile Country Club.

**Saturday and Sunday, April 27-28**

Boats will be furnished for guests interested in boating and fishing. Please contact Clarence V. Partridge, Chairman, Boating and Fishing Committee.

## OTHER EVENTS

**APRIL 24, 1963**

### Alabama Academy of General Practice

The Board of Directors of the Alabama Academy of General Practice will meet on Wednesday, April 24. Time and place of meeting will be announced.

**APRIL 26, 1963**

### Alumni Association, University of Alabama School of Medicine

The Alumni Association of the University of Alabama School of Medicine will have a business meeting and luncheon at 12:30 P.M. at the Battle House Hotel on Friday, April 26. The speaker for this meeting will be Dr. S. Richardson Hill, Dean of the Medical College of Alabama. The chairman of arrangements for luncheon is Dr. W. C. Hannon, Mobile, Alabama.

### Alabama Chapter International College of Surgeons

The Alabama Chapter, International College of Surgeons will have a breakfast business meeting and election of officers at 7:30 A. M. on Friday, April 26, at the Admiral Semmes Hotel.

### Alabama Radiological Society

The Alabama Radiological Society will have a luncheon business meeting and election of officers at 12:30 P. M., Friday, April 26, at the B & G Cafeteria, 951 Government Street, Mobile.



# PROGRAM Of The WOMAN'S AUXILIARY To The MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

**SHERATON BATTLE HOUSE HOTEL**

**APRIL 25-26, 1963**

## OFFICERS

### President

Mrs. John M. Kimmey.....Elba

### President-Elect

Mrs. W. R. Sutton .....Blountsville

### Vice-Presidents

Southwest—Mrs. Dixon Meyers ..... Mobile

Southeast—Mrs. Leslie M. Johnson..... Dothan

Northwest—Mrs. Francis Nicholson..... Jasper

Northeast—Mrs. H. M. Pewitt, Jr..... Huntsville

### Recording Secretary

Mrs. L. W. Funderburg ..... Birmingham

### Corresponding Secretary

Mrs. James F. Stanley.....Enterprise

### Treasurer

Mrs. Ira Patton .....Oneonta

### Finance Officer

Mrs. H. Price Edwards ..... Birmingham

### Historian

Mrs. Harvey B. Searcy.....Tuscaloosa

### Parliamentarian

Mrs. John Chenault.....Decatur

### Directors

Mrs. William A. Cunningham ..... Birmingham

Mrs. John T. Morris.....Cullman

Mrs. J. G. Daves .....Cullman

### Advisory Council

Dr. George W. Newburn, Jr., Chairman..... Mobile

Dr. John Chenault ..... Decatur

Dr. Sam W. Windham ..... Dothan

Dr. James G. Dunn, Jr..... Opp

Dr. Orizaba Emfinger ..... Union Springs

## COMMITTEE CHAIRMEN

A. *Sponsored by the Woman's Auxiliary to the American Medical Association*

AMA-ERF—Mrs. Curtis A. Smith, Mobile

Bulletin—Mrs. John F. Holley, Florala

Civil Defense—Mrs. R. K. Wilson, Aliceville

Community Service—Mrs. James G. Dunn, Jr., Opp

Health Careers—Mrs. James Guin, Jr., Tuscaloosa

Legislation—Mrs. William Anderson, Chairman, Tuscaloosa; Mrs. Hugh B. Praytor, Co-Chairman, Montgomery; Mrs. H. A. Campbell, Gadsden; Mrs. A. D. Henderson, Mobile; Mrs. E. J. Phillips, Decatur

Mental Health—Mrs. R. A. Dillard, Birmingham

Members-At-Large—Mrs. Willard Irwin, Moulton

Membership—Mrs. W. R. Sutton, Blountsville

Program—Mrs. Walter J. Brower, Birmingham

Rural Health—Mrs. Clarence L. Salter, Talladega

Safety—Mrs. William Noble, Fort Payne

WA-SAMA—Mrs. Thomas J. Flynn, Birmingham

International Health Activities—Mrs. John Walter Webb, Montgomery

B. *Sponsored by Woman's Auxiliary, Southern Medical Association:*

Southern Projects—Mrs. Brison Robertson, Jr., Councilor, Birmingham

## WOMAN'S AUXILIARY PROGRAM

### C. *Sponsored by Woman's Auxiliary, Medical Association of the State of Alabama:*

Archives and Exhibits—Mrs. William B. Patton, Mobile

Essay Contest—Mrs. William J. Rosser, Birmingham

Memorial—Mrs. J. O. Brooks, Hamilton

Nominating—Mrs. William A. Cunningham, Birmingham

Press and Publicity—Mrs. George W. Newburn, Jr., Chairman, Mobile; Mrs. Kellie Joseph, Birmingham

Revisions—Mrs. L. H. Clemmons, Cullman

WAMASA NEWS LETTER—Mrs. Wilmot Littlejohn, Editor, Birmingham; Mrs. William O. Romine, Assistant Editor, Birmingham; Mrs. Harry E. Caldwell, Circulation Manager, Birmingham; Mrs. John E. Kent, Assistant Circulation Manager, Birmingham

Yearbook—Mrs. Herbert D. Gibson, Chairman, Enterprise; Mrs. William L. Smith, Montgomery

### D. *Mobile County Committees for Convention:*

General Chairman: Mrs. Jack Yeager, Mobile; Co-Chairman: Mrs. B. B. Kimbrough, Mobile

Publicity—Mrs. George W. Newburn, Jr., Mobile

Registration and Credentials—Mrs. Frank T. England, Chairman, Mobile; Mrs. A. D. Henderson, Co-Chairman, Mobile

Hospitality—Mrs. William Baston, Mobile

Finance—Mrs. John C. Fridge, Mobile

Woman's Auxiliary to the American Medical Association. I will support its activities, protect its reputation and ever sustain its high ideals."

Welcome—Mrs. William Baston, President, Mobile County Auxiliary

Introduction of Guests—Mrs. John M. Kimmey

Convention Rules of Order—Mrs. Jack Yeager

First Report of Credentials Committee—Mrs. Frank T. England

Report of Reading Committee—Mrs. L. W. Funderburg

Annual Report of Officers

Annual Report of County Presidents—Mrs. W. R. Sutton

*Southwest District*—Mrs. Dixon Meyers

Baldwin—Mrs. Charles Gaston, Bay Minette

Dallas—Mrs. Sam Kirkpatrick, Selma

Escambia—Mrs. Robert Hayes, Brewton

Mobile—Mrs. William Baston, Mobile

*Southeast District*—Mrs. Leslie M. Johnson

Coffee—Mrs. Herbert D. Gibson, Enterprise

Covington—Mrs. L. L. Parker, Andalusia

Elmore—Mrs. John R. Chapman, Alexander City

Geneva—Mrs. H. B. Strickland, Jr., Hartford

Houston—Mrs. Robert Wise, Dothan

Montgomery—Mrs. Edwin L. Webb, Montgomery

Pike—Mrs. J. A. Brantley, Troy

Announcements

Recess

1:00 P. M.—Dutch Luncheon, Battle House, honoring Mrs. Elias Margo, President, Woman's Auxiliary to the Southern Medical Association; and Past Presidents of the Woman's Auxiliary, Mrs. John M. Kimmey, presiding.

Invocation—Mrs. Curtis A. Smith

Introduction of Guests—Mrs. John M. Kimmey

Greetings from the MASA—M. Vaun Adams, M. D., President

Greetings from Southern—Mrs. Elias Margo

## PROGRAM

### Wednesday, April 24

2:00-5:00 P. M.—Pre-Convention Registration, Lobby, Sheraton Battle House

### Thursday, April 25

8:00 A. M.-3:00 P. M.—Registration, Lobby, Sheraton Battle House

8:00-9:30 A. M.—Pre-Convention Board Meeting  
Dutch Breakfast, Battle House

10:00 A. M.—First General Session—Battle House

Call to Order—Mrs. John M. Kimmey

Invocation—

Auxiliary Pledge—Led by Mrs. Walter J. Brower  
"I pledge my loyalty and devotion to the

### Friday, April 26

8:00 A. M.-12 Noon—Registration, Lobby, Sheraton Battle House

9:00 A. M.—Second General Session, Battle House

Call to Order—Mrs. John M. Kimmey

Invocation—Mrs. John Chenault

Introduction of Guests—Mrs. Kimmey

## WOMAN'S AUXILIARY PROGRAM

Memorial Service—Mrs. J. O. Brooks

Annual Reports of County Presidents Continued  
—Mrs. W. R. Sutton

*Northwest District*—Mrs. Francis Nicholson

Colbert—Mrs. Gene T. Qualls, Sheffield

Cullman—Mrs. J. C. Chambliss, Cullman

Jefferson-Bessemer—Mrs. B. H. Johnson,  
Bessemer

Jefferson-Birmingham—Mrs. Milton C. Ragsdale,  
Birmingham

Lauderdale—Mrs. Louie E. Bayles, Jr., Florence

Marion—Mrs. William F. Gaba, Winfield

Morgan—Mrs. E. J. Phillips, Decatur

Pickens—Mrs. W. W. Duncan, Aliceville

Tuscaloosa—Mrs. Earl Brandon, Tuscaloosa

Walker—Mrs. T. R. Whatley, Sipsey

*Northeast District*—Mrs. H. M. Pewitt, Jr.

Blount—Mrs. Ira Patton, Oneonta

Calhoun—Mrs. Robert C. Simmons, Jr., Aniston

Cherokee—Mrs. Eugene Bradley, Centre

DeKalb—Mrs. George I. Weatherly, Jr., Fort Payne

Etowah—Mrs. Joe Denson, Gadsden

Jackson—Mrs. I. W. Bankston, Scottsboro

Madison—Mrs. B. B. Jordan, Huntsville

Marshall—Mrs. W. V. Crawford, Crossville

Talladega—Mrs. John D. Rayfield, Sylacauga

Second Report of Credentials Committee—Mrs.  
Frank T. England

New Business

Recommendations from Executive Board—Mrs.  
L. W. Funderburg

Presentation of Budget for 1963-1964—Mrs. H.  
Price Edwards

Report of Resolutions Committee—Mrs. J. G.  
Daves

Report of Nominating Committee—Mrs. William  
A. Cunningham

Election of Officers

Election of Nominating Committee

Election of Delegates to National Convention

Installation of Officers—Mrs. William G. Thuss,  
President, Woman's Auxiliary to the American  
Medical Association

Presentation of President's Pin and Gavel—Mrs.  
John M. Kimmey

Presentation of Past President's Pin—Mrs. William  
A. Cunningham

Inaugural Address—Mrs. W. R. Sutton

Introduction of Committee Chairmen for 1963-  
1964—Mrs. Sutton

Announcements

Invitation to Luncheon—Mrs. Jack Yeager

1:00 P. M.—Luncheon, Battle House, honoring Mrs.  
William G. Thuss, President, Woman's Auxiliary  
to the American Medical Association, Mrs. Wil-  
liam Baston, presiding.

Host—Mobile County Medical Auxiliary

Invocation—Mrs. Dixon Meyers

Introduction of Guests and New Officers—Mrs.  
Meyers

Introduction of Essay Contest Winners—Mrs. W.  
J. Rosser

Address—Mrs. William G. Thuss

Awards—

AMA-ERF—Mrs. Curtis A. Smith

Archives and Exhibits—Mrs. William B. Patton

Post Convention Board Meeting to be An-  
nounced.

## CONVENTION RULES OF ORDER

1. There will be a registration fee of \$4.00 to in-  
clude the Dutch Luncheon on Thursday.

2. All persons appearing on the program shall  
be seated in a reserved section at the front of the  
room.

3. Members of the voting body shall wear badges  
at all sessions of the convention.

4. When addressing the chair, the member shall  
rise, give her name and the name of county auxil-  
iary.

5. Unless notified to the contrary, each speaker  
shall be limited to two minutes and shall not speak  
more than twice on any question.

6. A timekeeper will notify each speaker when  
two minutes are up.

7. All motions shall be written, signed and pre-  
sented to the Recording Secretary.

8. Reports shall be read only by person making  
the report or her appointed delegate.

9. Visitors are welcome to all sessions of the  
convention but are requested to register and to sit  
apart from the voting body.





## ASSOCIATION FORUM

# Changes

By WILLIAM A. PATTERSON

President, United Air Lines

At the start of this century, the average man lived within walking distance or a brief street-car or buggy ride from his place of employment. There was no automobile waiting at the curb for him to drive wherever he wished. Transit systems prospered. The work-day was longer and there simply wasn't time, let alone means, to travel 50 to 100 miles to and from the job, as so many now do.

*Seven-tenths of the total working population in 1900 were directly engaged in producing food, clothing, shelter and other essentials required to sustain society. The remaining three-tenths were employed in clerical and financial capacities, or in supplying the various types of services.*

*Today, as a result of improved technology, only about four-tenths of the work force are necessary to extract, process, fabricate and transport a rich assortment of consumable goods. Our national product for a population some two-and-a-half times larger than in 1900 is approximately six times greater.*

The service industries have experienced tremendous growth. The professions have

expanded as never before. And there are now an estimated nine million employed by local, state and federal government. But the more significant fact is that inventive, progressive private industry has made it possible for many hundreds of thousands to follow new lines of endeavor that were absent or only sketchily manned 60 years ago.

This newer group of employees includes the technicians and industrial engineers who are refining our economic mechanism. It includes the scientists and research workers who are developing new products every day. It includes computer programmers, quality control analysts, industrial psychologists and a great many others in well-paid positions that were non-existent in 1900.

Most of us can recall when urban and rural America were about evenly balanced in numbers. Today, almost two-thirds of the population live in the city or within its immediate perimeter. Twenty years from now, we are told, the population will total some 250 million and almost three-fourths will live in the city and suburbia. The main concentration is expected to develop in 40 great urban complexes, occupying two per cent of the nation's land area.

That's the outlook. Should it prove correct, surface transportation will undergo further alterations to achieve greater flexibility in distributing goods. There will be many changes, ranging from the political to the economic. And there will be unusual

opportunities for those who have perception and the courage to act on their judgment.

*Take the case of jet aircraft. How many of us realize that jets represent not only an advance in transportation but an entirely new dimension in transportation? They've made all previous types of airliners obsolete and it's the first time that's happened in the air transport industry. From the moment of introduction, these aircraft reduced the size of this planet by 40 per cent.*

Jet transportation obviously can draw the world's communities closer together. This capability, combined with such developments as Telstar communications, would seem to open new avenues for improved understanding between nations and peoples. But working in counter directions, as we well know, are political philosophies that divide mankind into opposing camps.

Communism is not a new political doctrine, born of industrialization. Strip away the trappings and underneath you find Communism is just a revival of the ancient system of political master and political slave, tricked out with technology and Moscow slogans.

**Government that respects the rights of individuals—government that derives its power from the consent of the governed—in its brief span, has unloosed the greatest flow of creative energy and per capita wealth the world has ever witnessed.**

Thomas Jefferson, with all his brilliance and great confidence in the future of the Republic, thought it would take a thousand years to settle the West. He underestimated what free men can accomplish, given the opportunity to create for themselves with minimum government interference and restrictions.

The restrictions have multiplied in recent years. Some, unfortunately, have had their origin in the excesses of freewheelers who, though few in number and importance, have on occasion distorted the whole business image. And some have had their origin in the zeal of certain types of politicians who as-

**sume they know what is best for business, whether business likes it or not.**

*I would say to these gentlemen—let the fly specks go and acquaint yourselves with the true temper of the nation. When people vote down school bonds, park bonds and other civic improvements, as they've been doing, it bespeaks deep concern with taxes, pork barrel spending, and the public debt of more than \$300 billion.*

In traveling around the country the past year, I've talked with many businessmen and I must report their morale has been very low.

**They find no cheer in the \$16 billion increase in the level of non-defense expenditures over the last nine fiscal years.**

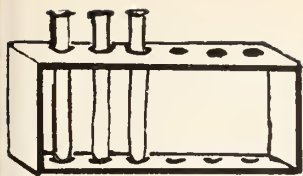
**They find no cheer in failure to balance the Federal budget in 26 of the last 32 years.**

**They find no cheer in the profit squeeze, or the fact that the cost of benefits—fringed and unfringed—now exceeds total corporation profits.**

**They find no cheer in unrelenting pressure for higher wages and the coming union drive for the 35-hour week.**

*Man lives by more than bread. He wants dignity, the chance for self-improvement—the opportunity to become more than what he is. Union strength, however, rests on keeping the status of the individual fixed and supposedly secure. The natural urge to grow and develop is stunted by the promise of an easier life by union negotiation. Business has to pay the bill or else pay the consequences for daring to resist the power of monopoly.*

In coming years it will be interesting to see the results of building a framework around the aspirations of a great many people. Meanwhile, I have misgivings about a program that makes limitation of opportunity acceptable to any man. And on that score, I repeat Abraham Lincoln's observation that "You cannot build character and courage by taking away initiative and independence."



# STATE DEPARTMENT OF HEALTH

## STATEMENT OF POSITION FOR MENTAL HEALTH SERVICES

IRA L. MYERS, M. D., MPH,

State Health Officer

In Alabama the State Board of Health has been designated as the Mental Health Authority.

In 1963 the Appropriation Act for the Department of Health, Education and Welfare, which became law on August 14, 1962, provided 4.2 million dollars for grants-in-aid to support comprehensive state mental health planning activities. On January 9, 1963 the Surgeon General of the Public Health Service announced that these funds had been released by the Bureau of the Budget and that the amount of such funds available to Alabama would be approximately \$69,900.00. This amount will be available immediately and will continue in effect for utilization until July 1, 1964. These planning funds are designed to support the development of planning for comprehensive state mental health programs. The ultimate goal is the improvement of the mental health of the people. It is suggested that to be truly comprehensive

attention must be paid to diverse areas, such as facilities and services, research and training, legislation and financing, and many other matters. Each state is urged to work with communities toward programs which have their roots in those communities. Community based mental health programs should provide a broad spectrum of mental health services, emphasizing a continuum of care, assurance of coordination among all relevant community resources, work toward the prevention of mental illnesses, and the promotion of mental health.

These funds will be available as soon as approval is given by the Public Health Service to the proposed plan of the Mental Health Authority. This plan is presently in preparation utilizing the guide lines of the requirements prepared by the Public Health Service.

It seems that at a time when funds are being made available to make a study of mental health needs by the Mental Health Authority in the State it would be unwise to take premature legislative action to assign elsewhere the responsibilities of the State Board of Health for the prevention of mental

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(Presented at the Interim Legislative Committee on Mental Health and Mental Retardation February 6, 1963)



illness in Alabama. In carrying out the wishes of the State Board of Health the State Health Department, through its Division of Mental Hygiene, has endeavored to give not only medical direction but special psychiatric direction to its mental health program. There has been increasing communication between the State Mental Hospitals and the Health Department for the past two or more years in an effort to coordinate the treatment services of the mental institutions and the preventive mental health program of the Health Department in every way possible. To facilitate this effort Dr. William H. Tragle, a psychiatrist on the staff of the State Mental Hospitals, has been serving as a psychiatric consultant to the Division of Mental Hygiene of the Health Department for the past several months, and in December, 1962 was appointed Acting Director of the Division of Mental Hygiene. There are continuing efforts on the part of this department to seek advice and counsel from the Department of Psychiatry of the Medical College of Alabama through Dr. James N. Sussex.

The salary restriction which has prevented this department from hiring a full time psychiatrist to direct the program is only one small portion of the over-all salary problem for medical personnel faced by the Department of Public Health.

The State Board of Health, through its County Health Departments, has built facilities in several of the county health buildings as an intrinsic part of its structures and incorporated its programs in its organization for the prevention of mental illness. These efforts have become an integral part of the preventive program of the Health Department in other areas. These facts should be considered in any discussion relating to the possibility of a change in either organizational control, facility usage or alteration of the methods of operation of mental health programs. The operation of mental health facilities under direction of someone other than the Health Department would complicate the utilization of these facilities administratively and operationally.

The follow-up of discharged mental hospital patients through the County Health Departments has been an active development in the past couple of years. The use of public health nurses to make these follow-up visits continues to increase as the available personnel are oriented to the specific needs and procedures for assisting the patients and their families. This is a unique arrangement under which the Mental Hospitals and the health departments are able to cooperate in a common endeavor without duplicating services. Any program which will disrupt this arrangement, call for drastic reorientation, or increase the need for additional nurses or other service personnel should be weighed carefully.

In summary it can be stated that the State Health Department believes that careful study should be given to a delineation of interest in programs operated by the State Mental Hospitals and those by the Department of Public Health. This is now possible with the new federal grant for planning. Therefore, it would seem premature to take legislative action at this point to change the mental health program and combine it with the Mental Hospitals' program. It may still be wise to separate the treatment of confirmed mental illness and the preventive and educational mental health programs. The proposed planning funds which are available to the Mental Health Authority of the State should be utilized fully and carefully during the next year and a half in order to properly arrive at a definite conclusion of what is best for the people of Alabama in terms of economy and service. Such a plan should include a broadly representative advisory board whose members are concerned with the various aspects of mental illness and mental health on a continuing basis.

A state appropriation for a continuing evaluation of changing needs, services and facilities should be provided for this specific purpose.

(Approved by State Committee of Public Health, January 30, 1963.)

# DEPARTMENT OF HEALTH

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

January 1963

Examinations for malaria.....	4
Examinations for diphtheria bacilli and Vincent's .....	156
Agglutination tests .....	471
Typhoid cultures (blood, feces, urine and other) .....	268
Brucella cultures .....	4
Examinations for intestinal parasites ..	2,198
Darkfield examinations .....	4
Serologic tests for syphilis (blood and spinal fluid) .....	25,249
Examinations for gonococci .....	1,760
Complement fixation tests .....	116
Examinations for tubercle bacilli.....	3,640
Examinations for Negri bodies (smears and animal inoculations).....	206
Water examinations .....	2,104
Milk and dairy products examinations ..	3,747
Miscellaneous examinations .....	4,345
<b>Total</b> .....	<b>44,282</b>

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## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

### CURRENT MORBIDITY STATISTICS

1963

	Dec.	Jan.	*E. E. Jan.
Tuberculosis .....	78	109	124
Syphilis .....	100	106	115
Gonorrhea .....	289	346	323
Chancroid .....	1	1	3
Typhoid fever .....	0	0	2
Undulant fever .....	1	1	0
Amebic dysentery.....	6	6	2
Scarlet fever and strep. throat .....	75	87	118
Diphtheria .....	4	3	6
Whooping cough .....	5	6	11
Meningitis .....	8	4	10
Tularemia .....	0	0	1
Tetanus .....	1	0	2
Poliomyelitis .....	1	1	1
Encephalitis .....	0	1	2
Smallpox .....	0	0	0
Measles .....	18	34	213
Chickenpox .....	98	178	159
Mumps .....	40	127	135
Infectious hepatitis ..	53	55	35
Typhus fever.....	0	0	0
Malaria .....	1	0	0
Cancer .....	640	647	494
Pellagra .....	1	1	0
Rheumatic fever .....	24	16	19
Rheumatic heart .....	24	37	26
Influenza .....	161	187	1,393
Pneumonia .....	219	318	332
Rabies—Human cases .....	0	0	0
Pos. animal heads .....	0	1	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

### PROVISIONAL BIRTH AND DEATH STATISTICS AND COMPARATIVE DATA, DECEMBER 1962

Live Births Deaths Causes of Death	Number Registered During December 1962			Rates* (Annual Basis)		
	Total	White	Non- White	1962	1961	1960
Live Births .....	6,700	4,188	2,512	23.6	24.3	25.1
Deaths .....	2,759	1,759	1,000	9.7	10.3	9.7
Fetal Deaths .....	131	57	74	19.2	18.8	21.9
Infant Deaths—						
under one month .....	141	79	62	21.0	22.0	17.5
under one year .....	241	110	131	36.0	36.8	35.8
Maternal Deaths .....	2	1	1	2.9	10.1	9.8
<b>Causes of Death</b>						
Tuberculosis, 001-019 .....	24	15	9	8.5	12.1	8.7
Syphilis, 020-029 .....	4	2	2	1.4	1.4	0.4
Dysentery, 045-048 .....	1		1	0.4		0.4
Diphtheria, 055 .....	1		1	0.4		
Whooping cough, 056 .....					0.7	0.4
Meningococcal in- fections, 057 .....	2	2		0.7	1.1	1.1
Poliomyelitis, 080, 081 ..	1	1		0.4		
Measles, 085 .....					0.7	0.4
Malignant neo- plasms, 140-205 .....	350	257	93	123.4	124.7	118.0
Diabetes mellitus, 260 .....	38	23	15	13.4	15.0	10.1
Pellagra, 281 .....						0.4
Vascular lesions of central nervous sys- tems, 330-334 .....	371	219	152	130.8	137.5	125.9
Rheumatic fever, 400-402 .....	1	1		0.4	1.1	
Diseases of the heart, 410-443 .....	915	638	277	322.7	364.4	325.5
Hypertension with heart disease, 440-443 ..	151	62	89	53.2	9.6	57.4
Diseases of the ar- teries, 450-456 .....	58	40	18	20.4	28.1	28.1
Influenza, 480-483 .....	7	2	5	2.5	3.6	5.4
Pneumonia, all forms, 490-493 .....	99	45	54	34.9	28.1	37.5
Bronchitis, 500-502 .....	4	3	1	1.4	3.2	2.5
Appendicitis, 550-553 ..	5	5		1.8	0.7	
Intestinal obstruction and hernia 560, 561, 570 .....	9	7	2	3.2	5.3	5.4
Gastro-enteritis and colitis, under 2, 571, 0, 764 .....	11	2	9	3.9	3.6	8.3
Cirrhosis of liver, 581 ..	17	11	6	6.0	5.3	7.2
Diseases of pregnancy and childbirth, 640-689 .....	2	1	1	2.9	10.1	9.8
Congenital malforma- tions, 750-759 .....	34	24	10	5.1	4.5	5.5
Immaturity at birth, 774-776 .....	41	22	19	6.1	6.6	3.7
Accidents, total, 800-962	216	133	83	76.2	69.8	70.7
Motor vehicle acci- dents, 810-835, 960 .....	84	66	18	29.6	30.6	30.7
All other defined causes	379	246	133	133.7	147.8	140.0
Ill-defined and un- known causes, 780- 793, 795 .....	169	60	109	59.6	48.8	51.2

\*Rates: Birth and death—per 1,000 population

Infant deaths—per 1,000 live births

Fetal deaths—per 1,000 deliveries

Maternal deaths—per 10,000 deliveries

Deaths from specified causes—per 100,000 population

# *The Woman's Auxiliary*

Since writing last month, I have made a number of visits. In Etowah County Mrs. Joe Denson, president, presided at a "Morning Coffee" in the lovely home of Mrs. Mercer Rowe in Gadsden. Mrs. W. R. Sutton, president-elect, spoke on membership. I followed with a talk on legislation and the part the physician and his family should play in politics. We then had an open discussion and concluded that we must all be prepared to do our part in the fight to preserve individual initiative and responsibility.

Another visit enjoyed was the Covington County meeting in Florala. The reports heard on nursing scholarships given by this Auxiliary were most gratifying. Mrs. L. L. Parker is the president. Following my talk on Auxiliary activities, Mrs. C. N. Matthews, program chairman, presented an interesting color film of Alabama scenes.

In Marshall County Mrs. Sutton and I were entertained at a luncheon in the attractive Val Monte Resort situated on the lake in Gunterville. Mrs. W. V. Crawford is president. She told us of some of the interesting things that have happened since she won a Pillsbury Bake Contest. Two of the members were away that day making talks in high schools in the interest of Medical Careers Clubs.

Of special interest was the visit to the Southeastern District in Dothan. This meeting was planned by Mrs. Leslie Johnson, vice-president for the district, with assistance from Mrs. Robert Wise, president, and the Houston County Auxiliary. We were privileged to have as honor guest and speaker our own Mrs. William G. Thuss, Birmingham, National Auxiliary president. In her talk Mrs. Thuss reminded us that leadership begins in the county. It is here that the success or failure of our efforts is determined. I hope each member has taken advantage of the opportunities for service in her own community. How rewarding is such service not only in the



MRS. JOHN KIMMEY

Auxiliary but also in the civic organizations to which we may belong. We have a better place to live and share with others the joy of meeting the challenge of the national president as expressed in her theme, "Aim for Excellence in Achievement."

It was my pleasure to join the Montgomery County Auxiliary as guests of the Maxwell Hospital Wives at a luncheon in the Maxwell AFB Officer's Club. A "Round the World" treat had been planned. On balconies were displayed art treasures collected by Air Force families stationed abroad. There was also a delightful parade of costumes and native dress from around the world.

Again my space is gone, and there is so much more to write. I am sure that from this brief account you can understand why I say, "The nicest thing that could happen to a physician's wife in Alabama is to be elected president of the Auxiliary."

*Ida Kimmey*

President



# THE JOURNAL

*of*

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## Electrolyte Disturbances In Postoperative Patients

Z. B. BARNES, M. D.

Montgomery, Alabama

The management of fluid and electrolyte problems has been intensively studied and placed on a firm scientific basis during the past decade. It is now possible, even in the smaller hospital laboratories, to obtain accurate and rapid determinations of serum electrolytes. If these are available, and if accurate fluid intake and output records are kept, disturbances in fluid and electrolyte balance may be anticipated, diagnosed and accurately treated. In addition to these measured data, the surgeon must be aware

of the clinical manifestations of the well documented syndromes of various electrolyte deficiencies and disturbances in water balance, because even with careful management, before and after surgery, unexpected and critical problems may arise that require prompt recognition and treatment.

Following major surgical procedures, there are only a few basic signs that reflect the status of the patient. These include a temperature, blood pressure, pulse and respiration record. In addition, the mental status and general appearance of the patient are very important observations that may be, if abnormal, a clue to fluid or electrolyte abnormality. The onset of some neurological disturbance should immediately arouse the

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Dr. Barnes is a graduate of the Emory University School of Medicine, Atlanta, Georgia. He is engaged in the practice of surgery in Montgomery, Alabama.

suspicion of the attending surgeon that such may be the case.

The following cases are presented to illustrate serious electrolyte and water balance disturbances developing unexpectedly in the early postoperative period, despite reasonable preoperative study and postoperative care, and manifesting dramatic neurological symptoms which proved to be the key to making the diagnosis.

#### Case No. 1

**HISTORY:** This fifty-one year old colored female was admitted to the Jackson Hospital, Montgomery, Alabama, on October 17, 1960 for elective removal of a large abdominal tumor mass thought to be related to the uterus or ovaries. Six weeks prior to admission, she experienced several episodes of vomiting and this was followed by some generalized weakness, poor appetite and a ten pound weight loss. There was no history of diarrhea, no abnormal vaginal discharge or bleeding and her past history was non-contributory. With these presenting complaints, she was seen in the medical clinic of the Joint Public Charity Hospital Board, Montgomery, Alabama, where examination disclosed a large lower abdominal tumor mass which had developed during the previous six months.

**PHYSICAL EXAMINATION:** Temperature 99.8°, pulse 78, blood pressure 120/70. She appeared chronically ill and the mucous membranes revealed moderate pallor. Abdominal examination disclosed a large tumor mass arising from the pelvis and extending almost to the umbilicus, and pelvic examination suggested that this was probably related to the uterus or ovaries.

**LABORATORY DATA:** Blood count showed the hemoglobin to be 8.5 gms., hematocrit 25 per cent, WBC 21,000, with normal differential. Urinalysis showed the albumin to be 1+, sugar negative, Ph 6.0, microscopic showed numerous WBC. A barium enema demonstrated displacement of the colon by a

large pelvic mass which was extrinsic to the colon, and a chest X-ray showed some cardiomegaly.

**HOSPITAL COURSE:** After preparing the colon with a mild laxative, sigmoidoscopy was performed prior to obtaining the barium enema and this showed no abnormalities. In preparation for this, no enemas were given and the laxative did not cause diarrhea as such. On October 19, 1960, laparotomy was performed with the finding of a huge uterine fibroid together with chronic salpingitis, bilateral tubo-ovarian abscess and there were numerous adhesions of the small bowel in the vicinity of the uterus and an dextra. Because of the extreme fibrosis and inflammation regional to the cervix, a subtotal hysterectomy was performed. During surgery, 1000 cc. of blood was transfused. At no time during the operation did the patient's blood pressure fall to shock levels. After awakening from the anesthesia, the patient's general condition appeared to be good. Twenty hours following surgery, the patient suddenly became comatose, unresponsive and moribund. Examination at this time disclosed extensor rigidity of all extremities with eyes deviated to the left, and the patient did not respond to painful stimuli. There was a positive right toe sign. The blood pressure was 80/60 and the pulse 80. The impression was that of a massive cerebral hemorrhage or cerebral thrombosis. Therefore, lumbar puncture was performed, but the fluid was clear and the pressure decreased. Examination of the abdomen showed no distention and there were no signs of hemorrhage. An emergency blood count revealed hemoglobin 11.7 gms. and hematocrit 31 per cent, and studies on the spinal fluid revealed three lymphocytes and an occasional RBC, negative globulin and total protein 30 mgm. per cent. The examiner was at a total loss to explain the critical features of the problem. Intravenous infusions were started with 5 per cent glucose in water and this was followed by 500 cc. of blood. Four hours later the patient was observed to have completely recovered from the syndrome as described, and was normal

in every respect except for amnesia of events surrounding the previously mentioned episode. Fifteen hours later, or thirty-six hours postoperative, a second similar episode occurred beginning with sudden loss of consciousness and followed by a seizure and then a post-ictal state which lasted for several hours. At this time serum electrolyte studies were obtained and these revealed a serum potassium of 2.4 mEq., sodium 133 mEq., and calcium 9.1 mEq. After these were obtained, it was then clearly evident that we were dealing with an isolated potassium deficiency and this was further confirmed by electrocardiograms which showed a prolonged QT interval, inverted T waves, and premature ventricular beats. She was treated with large amounts of intravenous potassium, followed by oral potassium in dosage of 6 gms. per day. Subsequent serum potassium determinations showed a rise of serum potassium to 3.7 mEq., and after institution of potassium therapy, no further neurological disturbances occurred. Prior to discharge, an intravenous pyelogram was done and this showed no abnormalities. The potassium deficiency was not explained and because of limited charity funds, the patient was discharged from the hospital on October 26, 1960, seven days following surgery, with instructions to take six grams of potassium chloride per day. Arrangements for followup were made with the Joint Public Charity Clinic.

On December 10, 1960, six weeks following discharge from the hospital, the patient was brought to the emergency room of the Jackson Hospital, comatose at 2:00 A.M. The attending surgeon was summoned and it was immediately recognized that the patient had again developed a potassium deficiency. She was admitted to the hospital and 80 mEq. of potassium in 5 per cent glucose in water was administered immediately. She responded to this treatment and following this a serum potassium was obtained. Despite the fact that she had just recently received 80 mEq. of intravenous potassium, her serum potassium level was only 1.6 mEq. Other electrolyte studies showed the  $\text{CO}_2$  to be 33

mEq., chloride 95 mEq., sodium 143 mEq. and BUN 11.5 mgm. per cent. When questioned, the patient stated that she had failed to take her oral potassium as directed for at least two weeks prior to this episode. During this hospitalization, she was maintained on 12 gms. of potassium chloride daily, and further studies were obtained, including an intravenous pyelogram and retrograde pyelogram and both of these showed no abnormalities. The urine specimen on culture yielded *Escherichia coli* and this was treated with the appropriate antibiotic. The serum potassium level rose to 4.8 mEq. The etiology of the hypokasemia was not explained.

Following discharge from the hospital, she continued to take 12 gms. of potassium chloride daily for six months until June, 1961. Interval serum potassium determinations after oral potassium was discontinued remained within normal limits and the patient has remained asymptomatic.

#### Case No. 2

This five year old white male was admitted to the Jackson Hospital on September 2, 1961 with the chief complaint of vomiting and abdominal pain of approximately 48 hours duration. There was no history of diarrhea. Past history revealed that during his infancy surgery for relief of pyloric stenosis had been performed. A twin sibling died at birth of unknown cause.

**PHYSICAL EXAMINATION:** The patient appeared acutely ill and moderately dehydrated. The temperature was 99.4°. Examination of the abdomen disclosed lower abdominal tenderness with guarding and rebound tenderness most marked on the right. The remainder of the physical examination was unremarkable.

**LABORATORY DATA:** The hemoglobin was 14.1 gms.; hematocrit 41 per cent; WBC 22,450, with 82 segs, 10 stabs, 6 lymphs, and 2 monocytes. Urinalysis showed a Ph of 5.5, specific gravity, 1.021, trace albumin,



negative sugar, microscopic essentially negative. On the evening of admission the  $\text{CO}_2$  was 25 mEq., serum chloride 96 mEq., serum potassium 4.0 mEq., and serum sodium 142 mEq.

**HOSPITAL COURSE:** The tentative diagnosis of acute appendicitis was made and after administering 500 cc. of 5 per cent glucose in normal saline over a three hour period, the patient was taken to the operating room and laparotomy was performed through a right McBurney incision. On opening the peritoneum, a moderate amount of peritoneal fluid was encountered and the appendix was readily located but appeared to be rather unremarkable. Nevertheless, appendectomy was performed, and the abdomen was further explored with the finding of several markedly dilated loops of small bowel and numerous adhesions at the site of the old surgery scar. The incision was then extended, and after gaining better exposure, it was evident that the lower jejunum was obstructed by an adhesive band. The band was divided and other adhesions were separated.

Surgery was tolerated quite well by the patient and during the first 24 hours following surgery, treatment consisted of nothing by mouth, antibiotics, and 1500 cc. of 5 per cent glucose in D/W, given intravenously. During this time, he vomited a large amount of green fluid, and a nasogastric tube was inserted. On this day the possibility of giving potassium was strongly entertained, but potassium was purposely withheld. (A recent death of another staff member's patient attributed to intravenous potassium tempered this decision.) Early on the third postoperative day, approximately 56 hours following surgery, the patient was noted to have a small convulsive seizure. He appeared very listless, lethargic, flaccid, and rather unresponsive and the attending nurses feared that the patient was dying. There was definite generalized muscular weakness and there was also, at this time, evidence of a paralytic ileus. The diagnosis of hypopotassemia was immediately suspected, particularly since potassium had been purposely withheld.

Serum electrolyte determinations were made and these showed a serum potassium of 2.5 mEq., serum sodium of 130 mEq., chloride, 95 mEq.,  $\text{CO}_2$  27 mEq. It should again be stated that the patient's clinical condition appeared to be critical. A polyethylene tubing was inserted into a saphenous vein by cutdown and an infusion of 5 per cent glucose in D/W containing 20 mEq. of potassium was started. After administration of the potassium, there was dramatic improvement. During the next 24 hours, 40 mEq. of potassium chloride was given by slow intravenous infusion, and oral fluid intake, including orange juice and tomato juice, was begun. Serum potassium determinations showed a gradual rise to normal limits during the next several days. After the paralytic ileus improved, he developed some diarrhea, but this was easily controlled. The wound healed, and the patient was discharged from the hospital on September 13, 1961, eleven days after admission. Followup visits in the office revealed no subsequent difficulties and the patient returned to his usual full activity within a short period of time.

### Case No. 3

This 65 year old white male was admitted to the Selma Baptist Hospital, Selma, Alabama on September 26, 1959, because of acute urinary retention. He gave a history of increasing frequency and nocturia for three months, and eighteen hours prior to admission, he became unable to urinate. Past history revealed evidence of angina pectoris which was promptly relieved by nitroglycerin and rest.

**PHYSICAL EXAMINATION:** This was a well nourished and well developed slender white male complaining of lower abdominal pain and inability to urinate. The temperature was  $98.^\circ$ , pulse 80 and blood pressure 120/60. Examination of the chest disclosed a few coarse rhonchi over the right posterior lung base. The abdomen was very tender to percussion and there was dullness up to the

umbilicus consistent with distention of the urinary bladder.

**LABORATORY DATA:** Hemoglobin 14.5 gms.; WBC 10,650 with 79 segs, 17 lymphs, 3 monos. Urinalysis showed a specific gravity of 1.018 with albumin of 2+, negative sugar and acetone, microscopic showed 10 to 12 WBC and 70 to 80 RBC, per high power field. The NPN was 31 mgm. per cent. A chest X-ray showed no significant abnormality and an electrocardiogram showed minor changes consistent with arteriosclerotic heart disease.

**HOSPITAL COURSE:** The urinary retention was promptly relieved by catheter drainage of the bladder, and after the above work-up was obtained and the bladder decompressed for a period of four days, a suprapubic prostatectomy was done under general anesthesia on September 30, 1959. 500 cc. of blood was transfused during surgery. During the first postoperative day, in addition to a few sips of clear liquids by mouth, 2000 cc. of glucose in D/W was given intravenously and during the second 24 hours following surgery, or on the second postoperative day, he received 1000 cc. of 10 per cent glucose in D/W. At 3:30 P.M., on October 1, 1959, 30 hours following surgery, he was noted to be mentally confused, and the blood pressure at that time was recorded to be 170/90. The symptom of mental confusion worsened and was soon followed by episodes of twitching and hallucinations. Therefore, within 30 hours following surgery and after the administration of only 3000 cc. of glucose in D/W intravenously, a clear cut syndrome of water intoxication developed. However, this was not recognized immediately as such, and during the next twenty-four hours, another 2000 cc. of 5 per cent Dextrose in D/W was given and his entire clinical picture became worse, and in fact quite critical. The blood pressure was recorded on occasion to be as high as 220/110 and it was necessary to give a large amount of sedation in order to keep the patient in bed. On October 3, 1959, 72 hours postoperative, electrolyte studies were obtained and were reported as follows: Potassium, 5.2 mEq., sodium 118 mEq., chloride

87 mEq.,  $\text{CO}_2$  20.6 mEq., NPN 38 mgm. per cent. These studies, coupled with the clinical syndrome, were characteristic of water intoxication and immediate treatment was begun. 250 cc. of 5 per cent sodium chloride was infused intravenously over a period of two hours with rather dramatic improvement. Within 24 hours, he was completely oriented and the blood pressure was within normal limits. Repeated electrolyte determinations showed a return of all values to within normal limits. From this time on, his course was rather uneventful and after removal of the bladder catheters, he was able to urinate without difficulty. Postoperative followup disclosed no evidence of hypertension, normal kidney function, and absence of any significant urinary symptoms.

#### Discussion

The profound hypopotassemia in Case No. 1 has yet to be satisfactorily explained and the possibility of primary aldosteronism has not been excluded. Unfortunately this patient is indigent and because of insufficient funds extensive laboratory studies that would help to make this diagnosis have not been undertaken. However, from a practical standpoint, the patient remains well. The mechanism of sudden unconsciousness followed by coma lasting for several hours in each instance undoubtedly represented severe cardiac conduction disturbance with cerebral anoxia such as is seen in the Stokes-Adams syndrome. The changes in cardiac conduction due to hypopotassemia are well known, and sudden death due to hypopotassemia has also been reported.<sup>1</sup> However, a cardiac disturbance such as is presumed to be the cause of sudden unconsciousness in this particular patient is extremely rare in potassium deficiency states, but has been reported.<sup>3</sup> The recognition of hypopotassemia followed by intravenous potassium therapy in this patient was life saving. Unfortunately, prior to elective surgery, there was no indication of potassium deficiency, which was unpredictably precipitated by hysterectomy for a

huge uterine fibroid complicated by acute and chronic salpingitis.

Case No. 2 also demonstrates a serious postoperative potassium deficiency that was detected when signs of generalized muscular weakness, poor response, and a worsening of the general appearance was noted. The response to therapy in this case was prompt and impressive.

Case No. 3 exemplifies the water intoxication syndrome appearing 30 hours after prostatectomy and with the patient having received only 3000 cc. of glucose in water. This is unusual, but as this case demonstrates, water intoxication may occur early in the postoperative course and following a reasonable amount of glucose in water. Zimmerman<sup>1</sup> reported 17 cases of postoperative water intoxication occurring between 12 and 48 hours following surgery, and in three instances, 3000 cc., or less, of glucose in water had been administered. Hyperirritability, mental confusion and convulsions probably due to cerebral edema are the usual signs of water intoxication. The administration of hypertonic saline, as was done in this case, is specific therapy.

The manifestations of electrolyte abnormalities are principally neuromuscular and cardiovascular.<sup>2</sup> The classical signs of potassium deficiency consist of flaccid paralysis and alteration of the electrocardiogram. The muscles of respiration may be involved with resulting anoxia. A rise or fall in the level of serum sodium causes a generalized lassitude and muscular weakness. Tetany appears in hypocalcemia and hypercalcemia causes a reduction in excitability. Reduction in the plasma concentration of magnesium results in muscle spasm and convulsions, and an increase in magnesium leads to muscle weakness and nervous system depression. Water intoxication produces convulsive seizures and hyperirritability. None of these alterations produce localized neurological changes, but rather a generalized disturbance. In severe hyponatremia and hyponatremia, lowering of the blood pressure with a weak, thready,

rapid pulse may be noted. A Stokes-Adams syndrome due to hypokalemia is certainly an unusual cardiovascular manifestation. Hypertension often accompanies water intoxication.

If the surgeon is aware of the fact that any serious disturbance in fluid or electrolyte balance is usually manifested by neuromuscular symptoms or cardiovascular abnormalities, unpredictable and unexpected problems can be promptly recognized and then accurately defined by serum electrolyte studies. Ideally, with present day methods, all surgical patients should be kept in proper fluid and electrolyte balance. Unfortunately, however, it is not always possible to have emergency surgical cases exactly prepared, the preoperative history regarding fluid volume loss or medication with adrenal hormones may be inaccurate, and the laboratory studies in the dehydrated patient may not always reflect the true electrolyte picture. The astute observation of the general condition and mental reaction of the patient is then essential for early diagnosis of these problems which may develop in the immediate postoperative period.

### Summary

Three cases of critical fluid and electrolyte disturbance in the early postoperative period are presented. The approach to clinical diagnosis of such problems is emphasized.

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# The Combined Use Of Tracheal And Esophageal Catheters During Anesthesia

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and

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Our attention has been focused on a seldom considered cause of trouble during anesthesia and surgery: Air or gas in the stomach at the time of surgery. Either of these substances may distend the stomach and thus prevent adequate diaphragmatic excursion. Diminution of diaphragmatic excursion is extremely significant in infants and children. It leads to carbon dioxide retention, bradycardia, and cardiac arrest. Alarming is the fact that this gastric distention may exist without a visibly distended abdomen.

The salient case which focused our attention on this situation was as follows:

A six week old infant was undergoing a pyloromyotomy for hypertrophic pyloric

stenosis. During induction it was apparent that he was not oxygenating well and in spite of all attempts by one of us to find the anesthetic answer his color remained poor, his respiration progressively became worse and bradycardia appeared. Having excluded all other sources of anoxia to our satisfaction it was felt that he might have possibly aspirated in spite of the fact that an endotracheal tube was now in place. A small plastic catheter was slipped through the mouth into the stomach.

The resulting release of air could be heard in the hall outside the operating room. The respirations immediately became smooth, the cyanosis cleared and the bradycardia disappeared. The anesthesia was then satisfactory.

On a number of occasions this sequence has been observed. One of us supervises anesthetics given by nurse anesthetists and by members of the house staff in a local teaching hospital. This problem arises in some degree every day. Almost never is abdominal dis-

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tention pronounced prior to insertion of the gastric tube, but in all cases the subsequent change in abdominal tension is commendable.

The means of entrance of the air or gas into the stomach is worthy of consideration. It has long been known that most of the air in the gastrointestinal tract is swallowed air. Most of the gas in the stomach of the anesthetized patient enters during the period of anesthetic induction. The amount varies with the type and duration of this phase of the anesthetic. With open drop induction of infants this period is relatively long and the patient swallows a proportionate amount of gas and air. Careful observation may show a change from a scaphoid abdomen to one of some degree of upper protuberance or fullness. As the stomach fills and distends diaphragmatic excursions are decreased and some degree of anoxia ensues.

Even in relatively short periods of induction with circle filter systems, where the endotracheal tube is to be used, air will enter the stomach. Some of this will be swallowed but the major portion will be pushed in by the anesthetist during the period of muscular relaxation and oxygenation which immediately precedes insertion of the endotracheal tube. Large amounts are similarly pushed in from the anesthetist's bag during procedures in which an endotracheal tube is not used. For example, during a low pelvic procedure a deeper plane of anesthesia may be desired. Additional thiopental and/or relaxant may be given and the bag manually pushed by the anesthetist. With no endotracheal tube and its proper attachment, and with a close-fitting mask, and an oropharyngeal air way, much of the air and gas will be pushed into the stomach.

A patient may escape this form of ingested air early in the procedure and yet fill his own stomach during the immediate post-operative period when the anesthetic plane lightens. This is the period during which nausea and vomiting are apt to occur. The entire laryngeal area may be seen working up and down prior to this expected vomiting.

With each laryngeal excursion a small increment of air is pumped down into the stomach. The air rises in the stomach and, with the act of vomiting, forces out fluid in varying amounts. The fluid may be gastric secretions and bile which have accumulated during the operative procedure. To the danger of anoxia is added the hazard of aspiration.

Control of this air is essential for smooth operative and immediate post-operative periods.

As soon as the endotracheal tube is in place and the anesthesiologist has assured himself of its fixation and protection, a plastic catheter is passed through the mouth and down the esophagus. Its passage into the stomach is followed by the expulsion of the aforementioned air. Sometimes considerable liquid gastric contents follows and continues to drain by gravity siphonage during the procedure. The catheter usually remains patent throughout the procedure and is allowed to hang out the corner of the mouth. If there is any question of patency the catheter may be gently irrigated with a few cc. of water or its position changed by the anesthetist (or surgeon if the stomach is exposed). The catheter is not connected to suction except on special occasions.

On occasion it may be necessary to pass the gastric catheter during the induction before the endotracheal tube is in place. This is especially true during open induction of infants.

The size of the catheter will vary with the individual patient. We find a No. 14 plastic suction catheter best in infants and children, and a No. 26 colon tube best for adults. These do not bend in the esophagus and will easily remove large amounts of air. The endotracheal and gastric tubes are left in place until the patient has reacted sufficiently for his own reflexes to protect the air way from invasion. A Guedel airway of plastic may be inserted to keep an awakening patient from biting the gastric tube, which is removed last.

Others have discussed certain aspects of this problem in the past. The methods of

entrance of gas and air into the stomach have been stated. Maddock has mentioned that aspiration, post-operative vomiting, and distention may be decreased by the use of an indwelling Levin tube during and after anesthesia.<sup>1</sup> The use of newer relaxants, improved surgical technique, and anti-emetic drugs has caused a decrease in the routine pre-operative insertion of naso-gastric tubes for many procedures.

Smith has discussed the problem and also mentions the hazard of decreased diaphragmatic excursions.<sup>2</sup>

We are unable, however, to find what we consider adequate emphasis on the "silent distention" of the stomach as a contributing cause of cardiac arrest. A careful but informal survey among our associates in anesthesia and surgery has shown a lack of knowledge on this small but significant point. The addition of the intragastric tube during anesthesia has proven to be a great adjunct to our anesthesia and surgery. We have made some observations and have drawn these conclusions from its use with the endotracheal tube:

1. The endotracheal tube protects the airway from invasion by foreign material during the operation and during the dangerous time of awakening.
2. Post-operative gas pains are considerably reduced.

3. The incidence and degree of post-operative vomiting, especially in children, is dramatically reduced.
4. The recognition of this condition adds to the evidence which indicates that so-called "Cardiac Arrest" is basically a phenomenon of anoxia. Gastric intubation should become a part of all anesthetic routines designed to decrease the incidence of this tragedy.
5. In anesthetic procedures where no endotracheal tube is used, the hazard of abdominal distention and subsequent aspiration is much greater and the significance of the intragastric catheter is increased.

### Summary

The combined use of tracheal and esophageal catheters during anesthesia is of great value in the prevention of distention, vomiting and cardiac arrest.

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# Causes Of Blindness In A State School For The Blind In Alabama

by

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The purpose of this paper is to present the findings of a survey of the State School for the Blind for children at Talladega, Alabama. The object of the survey was to ascertain the etiology for the low vision of the patients in the school. This school had only students who were children or young adults as the school goes only to the high school level. Thus this survey would possibly be a reliable index to the etiologic incidence of the different eye diseases causing blindness in the state of Alabama. The students considered in this survey were the ones actively enrolled at the school during the 1961-1962 session. The definition of blindness in these children did not represent total blindness per se, but meant that the visual acuity of these children was so low that they were unable to attend regular public school due to their visual handicap. Both the colored and white students were included in this survey. All the students considered had been examined by eye specialists and it was this examining ophthalmologist's diagnosis which was taken as the etiology of the low vision in

each student. Many had had surgery and eye examinations in the University of Alabama Ophthalmology Department and had had their diagnoses made at the University.

The students surveyed consisted of 365 patients of both white and colored races and both sexes. Figure 1 is a table presenting the total student membership and listing their individual diagnoses along with race and sex. Also this table shows the percentage of the total group due to each diagnosis.

## Discussion

The most striking fact brought out by this survey was the terribly high incidence of hereditary and congenital eye disease in the State School for the Blind. Among the diagnoses found, congenital cataracts was by far the most common. Ninety-four patients out of 365 had congenital cataracts. This was 25.1 per cent.

The second most common diagnosis of this group was optic atrophy, 43 cases or 11.5 per cent. The third most common diagnosis was extreme refractive errors which was 24 cases or 6.4 per cent of the group. Several other congenital or hereditary diseases were diagnosed such as congenital glaucoma, albinism, retinitis pigmentosa, microphthalmia, aniridia, etc. with a smaller incidence than congenital cataracts. Among the 23 diagnostic groups only six groups were not congenital or

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# CAUSES OF BLINDNESS

FIGURE I

Diagnosis	White Females	White Males	Colored Females	Colored Males	Total	Per Cent
1. Congenital Cataracts	26	20	18	30	94	25.1
2. Optic Atrophy	13	18	5	7	43	11.5
3. Retrolental Fibroplasia	23	19	0	2	44	11.7
4. Refractive Errors Extreme	5	12	4	3	24	6.4
5. Congenital Glaucoma	4	8	2	4	18	4.8
6. Chorioretinitis	6	9	3	2	20	5.3
7. Albinism Universal	4	9	2	1	16	4.2
8. Retinitis Pigmentosa	4	9	1	1	15	4.0
9. Microphthalmus Complicated	4	4	2	4	14	3.7
10. Aniridia	2	5	3	2	12	3.2
11. Congenital Nystagmus	2	4	1	1	8	2.1
12. Marfan's Syndrome with Subluxated lenses	0	2	1	3	6	1.6
13. Phthisis Bulbi	0	2	0	3	5	1.3
14. Uveitis Causing Poor Vision	2	1	0	1	4	1.0
15. Uveal Colobomas	3	0	1	0	4	1.0
16. Keratitis	0	2	1	1	4	1.0
17. Macular Degeneration	1	1	0	0	2	0.5
18. Choroideremia	0	2	0	0	2	0.5
19. Anophthalmia	1	0	0	0	1	0.2
20. Corneal Dystrophy	0	1	0	0	1	0.2
21. Hereditary Retinal Detachment	1	0	0	0	1	0.2
22. Traumatic Amaurosis	1	2	1	1	5	1.3
23. Diagnosis Undetermined	4	11	2	5	22	5.6

hereditary in nature. Retrolental fibroplasia was the most common disease among this non-hereditary or non-congenital group with 44 cases or 11.7 per cent. The other diagnoses such as choroiditis, phthisis bulbi, uveitis, keratitis and trauma were relatively of low incidence. On the other hand, if we total all the cases which were hereditary and congenital we find that this comprised over 75 per cent of the total number of patients surveyed.

On the basis of this survey, we think that a careful family and genetic history is important in any child with low vision as well as examination of as many relatives of the child as possible. Some diagnoses of eye disease in children are unable to be substantiated without the family history and the mode of inheritance being known. Also without a knowledge of the mode of inheritance of the disease in question appropriate genetic counseling to the parents is impossible. Genetic prevention or prophylaxis is more efficient in many of these eye diseases than medical treatment.

Many times in this study a good history of the family was not available making a diagnosis uncertain and in some cases impossible. In the survey, 22 cases were found to have no definite diagnosis, the most of them having no family history.

## Summary

This paper presented a brief survey of the State School for the Blind at Talladega, Alabama, (Children's Division). The diagnoses of the patients were presented and compared statistically with each other. Hereditary and congenital eye disease was found to be the most frequent cause of low vision or blindness in the group. The importance of taking a good family and genetic history in children was stressed for better diagnosis and prophylaxis of eye disease in children.

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# An Interesting Case Of Spontaneous Hemothorax

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H. C. Jordan, M. D.\*

and

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Spontaneous hemothorax has been discussed widely in surgical literature in recent years. A number of etiologies have been identified, some of them most unexpected.

While the case reported here cannot categorically be attributed to rupture of a pulmonary arteriovenous aneurysm, circumstances strongly point to this as the probable etiology.

Study of the case in retrospect raises the question of frequency of such an occurrence emphasizing the failure, even surgically and pathologically, to establish an accurate diagnosis.

## Case Report

R. E. N., a 32 year old white male, was admitted to the Thomas Hospital at 2 A. M. on January 11, 1961.

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For some months the patient had noted a chronic discomfort subjectively located in the left lower hemithorax. This was not associated with any other symptom referable to the cardio-respiratory system. Approximately 30 hours prior to admission, while engaged in active farm work, the patient experienced a sudden, severe pain in the left lower chest. Subsequently, progressive dyspnea and "heaviness" in the left chest led the patient to seek medical aid. The patient had enjoyed excellent health. In 1952 a survey film of the chest suggested tuberculosis but this was not followed up.

On examination the patient was in acute respiratory distress. Blood pressure was 130/80 falling to 100/60. Pulse rate was 140, respirations 40, temperature 98°F.

Physical findings included pallor, cool skin, diminished respiratory excursion on the left with percussion dullness and absent breath sounds to the level of the left fourth intercostal space. There were no stigmata of pulmonary arteriovenous fistula. (We are aware that there need not be.<sup>4</sup>)

The hematocrit was 33; hemoglobin 9.8 gm; red cells 3.5 million; white cells 15,100 with



a normal Schilling count. Urinalysis negative.

X-ray examination showed a massive left pleural effusion with shift of the mediastinum to the right. The differential diagnosis included carcinoma, pulmonary embolism and tuberculosis.

The patient was sedated, digitalized, placed on oxygen and antibiotics. Thoracentesis yielded 850 cc. of blood. This was submitted for complete laboratory study.

X-ray following the thoracentesis showed slight improvement.

On January 12, 1961, repeat thoracentesis yielded 20 cc. of blood. A chest film showed a fluid level at the second left intercostal space.

On January 13, 1961 the patient's condition had improved so that oxygen was discontinued. Surgical consultation was requested. It was suggested that continued supportive therapy would provide time in which to carry out diagnostic study. Continuing therapy included several blood transfusions and combinations of antibiotics.

Additional information was not obtained despite bronchoscopy and thoracic planography. Several electrocardiograms were within normal limits.

Angiocardiography was entertained but was considered to offer little in light of the thoracic density.

The patient was transferred to Providence Hospital and prepared for surgery.

On February 1, 1961, operation was performed. The left chest was entered thru the fifth intercostal space. Findings were typical of organized hemothorax. Decortication proceeded inferiorly over the anterior basal segment whereupon a 3-4 cm. cavity was entered. A gush of dark blood under moderate pressure was controlled and the situation evaluated. The cavity was spherical and communicated with a 2 mm. vessel in its proximal arc. No other communication could be identified. A wedge resection was

carried out and the decortication completed. The post-operative course was uneventful with discharge on the seventh postoperative day.

#### Pathology Report\*

Gross Description: The specimen consists of ".....". Received separately was a segment of soft brown tissue which is cystic in nature measuring 4 cm. in greatest diameter. The internal surface is translucent and tan to grey in color. This wall varies in thickness. It is generally very thin but in some places measures up to a mm. in thickness. There are occasional thickened areas which show a dull yellowish-tan discoloration on the internal surface. Gross examination does not reveal the presence of an arterial or venous tract definitely entering the cystic space (at surgery, communication was established prior to sectioning the vascular structure) but a vascular structure .2 cm. in diameter lies on one surface of this cyst over a distance of 1 cm. One end is cut and the other end is lost by gradual transition into the dense fibrotic tissue surrounding the cystic space."

Microscopic Description: ".....". The wall of the structure which was described above as a cystic space is revealed to be that of a dilated large arterial tract which shows a moderately severe degree of atherosclerosis. Most areas of this wall are composed of successive lamina of elastic tissue with a dense undulating elastic lamina present in many of the sections. Toward the central portion from the sections showing the elastic lamina, there is intimal thickening with fibrous proliferation in a plaque-like form. This contains rare foam cells and occasional slit-like clefts compatible with cholesterol crystals. Thrombotic and fibrinous material is present on occasional areas of the surface. Sections of the lung tissue reveal no evidence of thickening of the venous channels. A

\*Condensed.

venous element to the aneurysm cannot be identified."

Diagnosis from gross and microscopic examination:

"Arterial aneurysm in lung, organizing hemothorax, pulmonary atelectasis."

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### Discussion

Some six to eight months after this patient was operated upon, two of his brothers were attended. One sibling had a solitary lesion in the right middle lobe while the other presented bilateral pulmonary lesions of the right lower lobe and left lingula. Both were discovered by survey films offered as a public health service. Both men were plagued with frequent and severe epistaxis and the patient with bilateral lesions presented cyanosis and clubbing of all digits.

It was suddenly apparent that a familial disease was being observed. Rendu-Osler-Weber's disease was suspected and angiocardiology carried out in each case. Thus, was established the diagnosis of pulmonary arteriovenous fistula in both brothers of the patient herein reported. (Fig. 1)

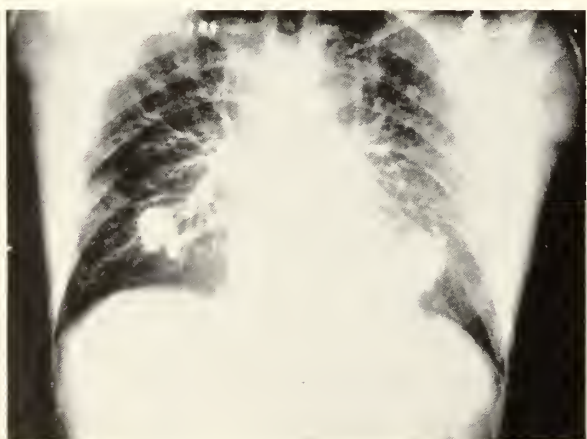


Fig. 1: Angio-cardiogram demonstrating bilateral lesions in one of the brothers.

The very extreme rarity of other atypical vascular lesions (as peripheral pulmonary

arterial aneurysm) producing spontaneous hemothorax coupled with the recognized genetic propensity of pulmonary arteriovenous fistulae, leads one to conclude that the case presented here suffered a spontaneous hemothorax due to rupture of a pulmonary arteriovenous aneurysm.

Many have commented on the danger of intrapleural rupture of pulmonary arteriovenous aneurysms, yet specific case reports are uncommon. It is possible that such an occurrence is not as uncommon as presently presumed; and this possibility must be borne in mind in any case of spontaneous hemothorax.

Brummelkamp<sup>2</sup>, in reporting such a case, makes reference to three additional instances recorded in the literature. Erf<sup>3</sup> and Wilkens<sup>5</sup> presented cases ending fatally. On the other hand, Armentrout<sup>1</sup> offers a case in which bleeding was self contained and the final diagnosis was established years later.

We believe that presentation of this case is warranted as it offers room for controversy, indicates a defect in the absolutism of histologic diagnosis, and highlights again the extremely variable manifestations of many disease entities.

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## Editorials

### MEDICAL STUDENTS ENCOURAGED TO ENROLL AT MEDICAL COLLEGE

The atomic age has brought about a change in the trends in majors taken by college students. An ever-increasing number of the superior students have been majoring in physics and the allied sciences. Therefore, fewer of the excellent students are taking premedical courses, and thus a smaller number of students apply for entrance to our Medical College.

The Physicians Advisory Board of the Medical Association of the State of Alabama is cooperating with the Medical College in an attempt to remedy the situation. The members of the Physicians Advisory Board are Dr. Wyatt C. Simpson, Chairman, Florence; Dr. W. D. Anderson, Tuscaloosa; Dr. J. O. Morgan, Gadsden; Dr. W. C. Hannon, Mobile; Dr. J. F. Alison, Sr., Selma.

At a joint meeting of the administration of the Medical College and the Physicians Advisory Board, it was decided that a concentrated effort would be made to encourage all excellent premedical students in Alabama to enroll at our Medical College. To implement this program, it was decided that some key individual, alumnus, or friend of the University in each county would be requested to accept the responsibility for his county to represent the Medical College of Alabama on behalf of the Physicians Advisory Board of the Medical Association of the State of Ala-

bama. To have a great Medical College we must have superior students and to this end, one of the first activities of the county representatives will be to interview all premedical students from his county. In order for the representatives to have firsthand information about the Medical College of Alabama, they have been invited to attend an orientation meeting on March 9 in Birmingham.

The representatives and their respective counties are listed below:

Representative	County
Dr. Walter C. Tew, Jr.	Autauga
Dr. Marvin H. Taylor	Baldwin
Dr. James S. Jackson, Jr.	Barbour
Dr. W. J. B. Owings	Bibb
Dr. Ira B. Patton	Blount
Dr. Orizaba Emfinger	Bullock
Dr. E. Vernon Stabler	Butler
Dr. Robert H. Lokey	Calhoun
Dr. John Horton Smith	Chambers
Dr. Eugene H. Bradley	Cherokee
Dr. Joseph W. Moore	Chilton
Dr. James H. Clark	Choctaw
Dr. William H. Rudder	Clarke
Dr. Cecil P. Horne	Clay
Dr. Richard T. Lowe	Cleburne
Dr. Donald H. Crook	Coffee
Dr. Howard J. Kelly	Colbert
Dr. Cecil E. Price	Conecuh
Dr. Howard L. Cockerham, Jr.	Coosa
Dr. Joe D. Sanders	Covington
Dr. James C. Ray	Crenshaw
Dr. Frank Stitt, Jr.	Cullman
Dr. Leon D. McLaughlin	Dale
Dr. James F. Alison, Jr.	Dallas



Dr. William Noble .....	DeKalb
Dr. Winston A. Edwards .....	Elmore
Dr. Robert L. Hayes, Jr. ....	Escambia
Dr. James O. Finney.....	Etowah
Dr. Henry G. Hodo, Jr.....	Fayette
Dr. B. S. Henry .....	Franklin
Dr. Hoyt A. Childs .....	Geneva
Dr. William H. Frederick .....	Greene
Dr. Wallace C. McAdory, Jr. ....	Hale
Dr. James R. Shell .....	Henry
Dr. Leslie M. Johnson .....	Houston
Dr. Ingram W. Bankston.....	Jackson
Dr. Robert S. Hogan .....	Jefferson
Dr. William Haig Wright .....	Lamar
Dr. Strudwick Norvell.....	Lauderdale
Dr. Robert H. Rhyne, Jr. ....	Lawrence
Dr. J. K. Brantley, Jr. ....	Lee
Dr. Eston G. Norwood .....	Limestone
Dr. Rucker L. Staggers.....	Lowndes
Dr. George C. Hester, Jr. ....	Macon
Dr. John H. Lary .....	Madison
Dr. Fred S. Whitfield, Jr. ....	Marengo
Dr. Ralph C. Christopher, Jr. ....	Marion
Dr. Ross C. Speir, Jr. ....	Marshall
Dr. Selden H. Stephens, Jr. ....	Mobile
Dr. Boyce L. Hanks .....	Monroe
Dr. Jack Kirschenfeld .....	Montgomery
Dr. John D. Chandler.....	Morgan
Dr. William H. DeRamus .....	Perry
Dr. Harold R. Pepper.....	Pickens
Dr. James O. Colley .....	Pike
Dr. Chester B. Primm.....	Randolph
Dr. James S. Mitchell, Jr. ....	Russell
Dr. John E. Haynes .....	St. Clair
Dr. Leslie H. Hubbard .....	Shelby
Dr. Sidney J. Williams.....	Sumter
Dr. Max E. Vaughn.....	Talladega
Dr. Lewis M. Lamberth .....	Tallapoosa
Dr. John F. Burnum .....	Tuscaloosa
Dr. Edgar A. O'Rear.....	Walker
Dr. Paul W. Petcher.....	Washington
Dr. J. D. Nettles .....	Wilcox
Dr. Hobson Manasco .....	Winston

Acting as coordinators of this program for the Medical College of Alabama are Dr. Emmett B. Carmichael, Assistant Dean, and Dr. Margaret Klapper, Assistant Dean.

## ANTIVIVISECTION?

### Again—Antivivisection

It is depressing to have to report that antivivisection is an active issue once more, but with quite different techniques. Gone are the raucous displays of the sort once staged by Irene Castle McLaughlin and her friends who wore expensive evidence of the

fur trapper's cruelty, while they branded medical researchers as subsimian brutes wallowing in the sadistic delights of animal torture.

### New and Phony Pose of 'Humane' Interest in Research

Sophistication has overcome the movement against medical research, now being pushed at the Federal level. Under the guise of a "humane society," and professing an interest in medical research, the new movement has already had bills introduced at the last Session of Congress, which would restrict and police scientific research so severely as to reduce drastically its effectiveness. The Moulder and Griffiths Bills are the proposed measures for "protective legislation" which the phony humane sponsors hope will be enacted at the next Session of Congress.

### Restrictive Legislation to be Re-introduced in Congress in '63

From a legislative view, the best counter-strategy is to launch a substitute Bill which will be a genuinely constructive step establishing a National Council on Laboratory Animal Care. Sponsors include the Association of American Medical Colleges, National Academy of Sciences, National Science Foundation and various other scientific groups.

### Scientific Community to Support Substitute Bill

Our renewal of effort against those who would stifle progress in medical research should be a renewal of interest in the Medical Research Association of California, the State branch of the National organization. This means, even more importantly, a renewal of annual dues to this watch-dog organization which has protected medical research so effectively in previous years.

*Reprinted from Bulletin of Los Angeles County Medical Society.*

# Daniel G. Gill, M. D.

*Health Officer of the State of Alabama*

*January, 1947 — December, 1962*

*With the death of Daniel G. Gill, M. D., who served the State of Alabama in the health field so long and so well, it is appropriate that the following resolution be noted in the minutes of the University Hospital and Hillman Clinic Administrative Council for the meeting of December 11, 1962 and in the minutes of the University Hospital and Hillman Clinic Medical and Dental Staff Advisory Council for the meeting of December 14, 1962;*

*Whereas, Daniel G. Gill, M. D. served Alabama in the field of Medicine and Health since the year 1924 and as State Health Officer for Alabama since January, 1947; and*

*Whereas, these 38 years of continuous health service to Alabama constituted a record of distinction in itself; and*

*Whereas; this devotion to duty, this interest in the health and welfare of the people of Alabama and this loyalty to standards of excellence were outstanding; and*

*Whereas, Dr. Gill's courage in meeting different situations, his devotion to the people of Alabama and his cooperative and friendly attitude throughout the years were an inspiration to his fellow workers in the health field; and*

*Whereas, Dr. Gill's leadership in improving the health of the people of Alabama and in raising the health standards of this State prolonged the life of countless citizens and became a part of the respected history of Alabama; and*

*Whereas, Dr. Gill will be remembered as a physician, humanitarian, leader and true Health Officer; and*

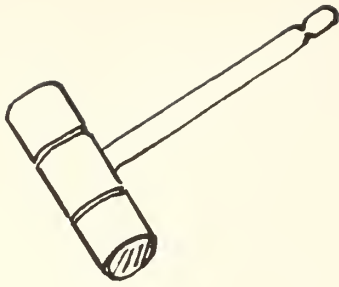
*Whereas, Dr. Gill will forever occupy a respected and beloved spot in the memories of the people of this State and of all of us at University Hospital and Hillman Clinic;*

*Be It Therefore Resolved that the Administration and the Medical and Dental Staff of the University Hospital and Hillman Clinic extend to the family of Dr. Gill their deep personal and professional sense of loss at his passing and extend to the family our very deepest sympathy.*

*Adopted by the University Hospital and Hillman Clinic Administrative Council this 11th day of December, 1962 and by the Hospital Medical and Dental Staff Advisory Council this 14th day of December, 1962.*

CHAMP LYONS, M. D.  
Chairman, University Hospital  
Medical and Dental Staff

MATTHEW F. McNULTY, JR.  
Administrator and Secretary  
Medical and Dental Staff



# President's Page



*Dr. John G. Baum, M.D.*

## WHAT DO YOU THINK?

Composing the President's Page during the last twelve months has been very time consuming. The ability to express my thoughts, ideas, and beliefs in writing, while frustrating at times, offers a distinct challenge, which I have accepted.

The President's Page has stimulated my desire for knowledge and increased my ability to think carefully, objectively, and I hope without prejudice. The opportunity for expression has correlated my thoughts concerning moral and ethical philosophy more than ever before. This has been advantageous

in helping me to assess adequately the difficulties confronting the medical profession from without, as well as to understand many of the problems facing the profession from within.

The recommendations which I shall propose have been developed after 32 years of practice in pediatrics, 12 years of intensive work with the Medical Association of the State of Alabama, and five years of observation and service at the national level as a delegate to the American Medical Association.



No physician knows what I shall propose.

No physician has made any specific suggestions to me.

No physician has read this President's Page prior to publication.

To state it more simply—these ideas are mine—and mine alone.

Under Article XIII—Section 1 of the Constitution of the Medical Association of the State of Alabama (as codified in 1961), "ten censors . . . shall, when organized, constitute a board, which board shall be authorized to act in three capacities, to wit:

1. As a State Board of Censors.
2. As a State Board of Medical Examiners.
3. As a State Committee of Public Health."

The Board, elected by the Association, is comprised of honorable, well-educated, hard-working physicians who have demonstrated their energy, vision, stamina, and dedication in numerous ways and methods. It should be thoroughly understood that any suggestion which is proposed is not pointed at any censor or any group of censors or at the Board itself. My premise, my contention, and my desire is to serve medicine better in all of its aspects.

The Board, in my studied opinion, acting in its three capacities, has more work to do than can be done in a creditable manner in the best interests of the Association and the profession. This has not always been the case. In recent years there has been an ever-increasing amount of work and responsibility given to the Board. Some of this has been due to new legislation affecting medicine, such as the Hill Burton Act and the Kerr Mills Act.

Since the complete reorganization of the American Medical Association in 1957 there has been decidedly more activity at the national level, and many major problems which are now confronting medicine were inconsequential a few years ago (Committee on Legislation, AMA-ERF, Committee on Medical Education and Hospitals, etc.).

It appears that the Board is *hesitant to divest itself* of some of its responsibilities, which may well be an attribute to its dedication. However, having carefully observed, in an objective manner, the varied functions of the Board in its various capacities, particularly during the last two years, I must contend that some relief should be given to the Board so that it will have more time to devote to the duties prescribed for the Board of Censors. The decisions involving medical affairs of the Association could be more adequately examined, discussed, and acted upon under the proposed division of duties.

#### Recommendation No. 1

In an effort to relieve the Board from an ever-increasing burden, a separate and distinct Board of Medical Examiners should be created in a legally prescribed manner. The newly proposed Board of Medical Examiners should assume the duties and responsibilities of the present Board. The State Board of Medical Examiners should report directly to the Medical Association of the State of Alabama.

The Board of Medical Examiners should be composed of ten physicians elected by the Medical Association, one being elected from each congressional district (when new districts are legislated) and two from the state-at-large. This Board would serve the Medical Association and the State of Alabama in a proper and adequate manner.

#### Recommendation No. 2

Delegates to the State Medical Association should be elected (or appointed) for a term of three years.

If this is carried out, delegates will be much more effective in serving their county medical societies. Everyone will agree that a one-year term is indefensible. This could be effectuated by changing the by-laws in each county medical society. Delegates should

assume the duties of the office and serve their respective county societies in a more creditable manner than is generally done at the present time.

#### Recommendation No. 3

Members of the Board of Censors should be limited to *two consecutive terms of five years each*. Under Article VIII—Section 2, third paragraph of the Constitution it states no member shall “be eligible to succeed himself as censor who has served three consecutive terms of five years each.”

This suggestion does not need any elaboration. Ten years service to the Board of Censors is all that should be expected or allowed of any member of the Association.

#### Recommendation No. 4

The chairmen of the major committees of the Association should appear before the Board of Censors to present the report of the committee.

In the interest of effective communication, harmony, and understanding it is desirable that the chairman should personally appear before the Board of Censors to present the report of the committee. While a written report is made to the Association and presented to the counsellors and delegates and is available to the Board, it will be more effective if the report is discussed in person. It must be remembered that it is always necessary to stimulate and generate enthusiasm in the various committees of the Association. One of the surest methods of accomplishing this objective is to give the committee some responsibility and authority and request the chairman to appear before the Board.

People naturally crave recognition. It has been said that this desire for recognition stimulates more people to accomplish something than any other factor.

#### Recommendation No. 5

A physician should be a member of the State Licensing Board for the Healing Arts.

At the present time the Attorney General, the Secretary of State, and the Superintendent of Education compose the Licensing Board for the Healing Arts.

The Board would function more capably, as would the executive officer, by having the knowledge of an experienced physician as a member. This may well be studied by the Committee on Legislation. (This was the original planning for the Board; but difficulties developed during the legislative session, and it could not be accomplished.)

#### Recommendation No. 6

*Any member of the Medical Association in good standing in a county medical society for five consecutive years should be eligible for election to the Board of Censors.* There are now 2241 members in our State Association, but the present constitution limits eligibility to the Board of Censors to the 155 active and life counsellors. This was undoubtedly a good law when it was inaugurated, but at the present time it is nothing short of archaic.

Under Article VI—Section 14—(2) “*They (referring to counsellors) shall be eligible for the offices of the Association.*” This means that only counsellors may be elected to the Board of Censors.

The Constitution of the Medical Association of the State of Alabama under Article IV—Section 4 reads, “All members who have been in good standing of a county medical society in Alabama for five consecutive years immediately preceding any election to fill vacancies in the several offices of the Association shall be eligible to election to the office of president, president-elect, vice-president, secretary and treasurer (amended 1961).” To effect the suggested change it should be

amended by adding after treasurer, "and members of the Board of Censors."

#### The State Committee of Public Health

Considerable thought and study should be directed to a re-evaluation of the duties and responsibilities of the State Board of Health (Medical Association of the State of Alabama) through the State Committee of Public Health and the State Health Officer. Even if no significant changes are recommended, a reaffirmation of policy would be in the interest of the Association and the public.

Over an extended period of time there have been requests for a change in the composition of the State Committee of Public Health. These have not been granted because *there is no fundamental reason for a change* in the State Committee of Public Health. Public health decisions should be made by physicians, who are trained in basic health considerations. To do otherwise would not be in the best interest of all concerned.

In the light of recent events, however, it would be pertinent to study the possibility of creating an Advisory Board to the State Committee of Public Health. This Advisory Board should *NOT have the power to vote* but should be granted equal rights to discuss the public health problems of Alabama. If a study should indicate that an Advisory Board would be helpful to the State Committee of Public Health and to the public at large, it would be an easy matter to make the necessary appointments.

#### HOW WILL THESE RECOMMENDATIONS BE RECEIVED?

It would be foolhardy to expect all of these recommendations to be accepted by the members of the Association; in fact, it may have been foolhardy to write this President's Page.

Too often today, possibly also in the past, leadership has failed to express its convictions (which is not leadership).

Physicians, being human most of the time, will undoubtedly receive these ideas with varied emotions—some with praise, others with horror, a few with despair, and some with downright animosity toward anyone who would suggest changing the organization of our State Association (whether it be regarded as good or bad).

For six months I have considered, evaluated, reconsidered, and re-evaluated the propriety of expressing my views in the President's Page. I always came back to the premise that it is the president's page; and it should be utilized to express his PERSONAL beliefs and ideas, which are generally purported to be in step with representative medical opinion.

Well—here it is.

Now, it is YOUR TURN TO "CARRY THE BALL." GOOD LUCK.

M. VAUN ADAMS, M. D.





## ASSOCIATION FORUM

# *Pharmaceutical Promotion And its Impact on the Practice of Medicine*

T. F. Davies Haines,

President, Ciba Pharmaceutical Company,

Summit, New Jersey

In all its educational, informational and promotional activities the prescription drug industry is trying to strike some kind of viable balance or working adjustment, between two factors: the prodigious demands on the time of the physician, and the rapid multiplication of new drugs and therapeutic technics.

To resolve the problem and to fill the need, the pharmaceutical industry has developed three main avenues: direct mail literature, advertising in the journals and the detailman. We have also used such supplementary methods as symposia, motion pictures, slides, recorded lectures and closed circuit television. In all these efforts our intent has been: first, to spread as widely as possible what we consider to be vital medical information; and second, to make the best possible use of the practitioner's precious time.

### Communication Imperative

For a classic example of the importance of rapid and wide communication in medicine, let's go back to the story of penicillin.

Fleming first observed his mold in 1928. But awareness of his discovery did not spread much beyond the rim of the dish on his window sill or the margins of the pages of a journal or two. For ten long years it languished, a laboratory curiosity and little more. In 1938, the British made enough to try it on a patient—a London bobby with a massive infection of the head. But the result was tragic. The symptoms receded, but the supply ran out. The patient died. Some more was made and tried on a child, and this time it worked. Penicillin had scored its first victory.

By now, World War II was on. The British were in no position to solve the intricacies

of producing this marvelous novelty, this thing called an antibiotic. So they sent out their appeal. They *communicated* with all the urgency of four bells from the firehouse. And, to borrow a phrase from the current idiom, we got the message.

Thanks to our mastery of the deep vat fermentation process, among other factors, plus an abundance of human energy, the American pharmaceutical manufacturer got penicillin into mass production so swiftly that before the end of the war it had already saved thousands of lives on the battlefield, and was on its way into the domestic pharmacopoeia. But none of this would have occurred if there had been no *communication*.

We communicate in order that these agents—this amazing arsenal of weapons—will be understood and used. We also communicate in order to preserve the economic system which produced them.

### The Detailman

To hear some of our critics talk, you might assume that we embraced the detailing system solely because it is expensive. The accusation is quite in error. Whatever else we may be, we are not spendthrifts or wasters of our substance. We cannot afford to be. We are, after all, accountable to our stockholders. Our methods are dictated by the nature and importance of our products, the exigencies of the times, the American economic system and the marching pace of modern medicine.

The detailman seemed to be the logical answer to a critical problem of communication, to the advantage of the doctor, in the best interests of the drug maker and for the welfare of the patient.

What manner of person is this emissary? Generally, the detailman has a scientific background, frequently premedical or pharmaceutical. He has learned the necessary physiology and been thoroughly briefed on his products by company physicians—not

only on indications, but also on contraindications, reactions and side effects. He knows the current literature. He is familiar with the clinical studies. He can answer the doctor's questions. And if he does not have an answer, he knows how to get it from his medical department.

In 1957, the department of pharmacology of a well-known medical school embarked on a three day project designed to teach medical students how to evaluate drug promotion. The reason for the undertaking was stated in a journal report: "It seemed clear that this advertising was exerting an unprecedented influence on the physician's prescribing—much of it unfavorable."<sup>1</sup>

That approach, I need hardly point out, is scarcely scientific. It is a prejudgment, not an hypothesis—the truth of which was to be impartially tested. It admits bias at the outset, a determination not to discover the truth, but to document an *a priori* conclusion. Yet, despite this conditioning by their faculty, how did the students themselves in the course of this venture come finally to assess the detailman? This is the substance of their conclusion:

"As expected, the detailmen representing the reliable companies were themselves generally reliable and trustworthy. However, we were pleasantly surprised to find that even those representing the companies that were rated unreliable almost uniformly adhered to high ethical standards. . . . In general, it appeared that the detailmen regarded themselves as being more than mere salesmen and considered themselves to be professional assistants or associates of the physician."<sup>1</sup>

### Medical Journals

It has been suggested by some purists that the physician should base his judgment of new prescriptions solely on his reading of medical journals. To be sure, these journals are the indispensable mainstream of medical knowledge. But to expect the busy doctor

to read all 300 or more journals now periodically in print is unrealistic. Indeed, many important papers never achieve publication at all. To absorb all this mass of reading matter, to collate, to compare, to weigh and assess every clinical report would be a job of encyclopedic proportions. To do so, the physician would cease to practice medicine; he would become an editor, and a sorely overworked one at that. As Commissioner Larrick of the Food and Drug Administration recently stated in testimony before a Senate committee: "If an individual attempted to read all the papers published in the United States alone in his specialty, he would have little or no time left over for anything else."

The major pharmaceutical houses have the facilities and the staffs to spare the individual physician much of this postgraduate drudgery. We retain qualified medical writers and physicians who supervise them, to summarize and digest quantities of material, concisely, readably, objectively—with the intent that the physician can readily obtain the information he wishes to use our products to the best advantage. This communication process has proved to be a two-way street because we receive about 6,000 letters and more than 1,000 phone calls each year from physicians who, stimulated by our literature, want to ask their own questions about our products.

It is obvious that physicians want this information but they do not want to be deluged by it. The problem is to find some practical yet legal procedure by which, in a society dedicated to the doctrine of free competition, the volume of this information can be controlled.

Someone once suggested that the problem could be solved if all the pharmaceutical companies got together and agreed on some common ground rules to avoid the possibility of the over-promotion of drug products. One thing wrong with this idea is that we have antitrust laws in this country and the Department of Justice frowns on such intercompany

agreements. In other words, it is against the law! Even if it were not, I doubt that such an arrangement would prove workable.

That puts it squarely up to the individual company to set its own standards—rather than allowing itself to be led entirely by competitive forces. We believe at Ciba—and I am sure the attitude is general in the industry—that our aim is not *more* promotion, but *better* promotion.

### Ciba Media

Let us begin with one example of the "promotional" material we furnish the physician, the *Clinical Symposia*. It contains complete reports of important clinical work by leading physicians, and also contains Ciba product advertisements. These advertisements rarely give enough information about the drug to allow the physician to prescribe it if he is not familiar with it. But they do remind the physician that a product is available for a particular condition and that further information about it can be obtained from our detailmen or directly from the company's medical division. This publication, due to punctilious editing and its high-level informational value, enjoys the confidence and esteem of the medical profession.

It is stretching a point, for example, even to categorize as promotion *The Ciba Collection of Medical Illustrations*. When completed, this compendium will include some 20 thousand illustrations by Dr. Frank Netter of every system of the human body. The volumes are available at cost to physicians and medical students. We are also producing, in cooperation with the Wayne State University School of Medicine, a series of teaching films on physical diagnosis.

We also contribute to the support of the Ciba Foundation, which each year invites leading authorities to assemble in England for the exchange of scientific information. In its first decade, this foundation had more than 6,000 distinguished visitors from 55



countries, and has sponsored 58 symposia and the publication of 50 volumes of proceedings.

In 1960 we spent more than \$1 million on the *Clinical Symposia*, the newspaper *Medical News*, scientific exhibits, the Ciba Foundation, *The Collection of Medical Illustrations*, anatomical slides, medical motion pictures and closed circuit television. And in most of these exercises in communication, the content frequently wandered far afield from any immediate relevancy to Ciba products.

Lest all this sound excessively lofty or high-minded, may I emphasize that we are a self-acknowledged, profit-making segment of the free enterprise system—nor do we apologize for the fact.

We do recognize, however, that we can only serve ourselves by dedication to the service of others. We recognize that our own interest and the public interest coincide. We research, develop, and distribute materials on which life itself depends. Further, we know that if the agents that prevent, alleviate and heal are to perform their function, their availability must be known; and that if we are to survive in a competitive industry, they must be used.

#### Drug Promotion and the Physician

The industry has been accused in some quarters of "brainwashing" the physician—of cajoling him by high-pressure promotion into dosing his patients indiscriminately and needlessly.

Such accusations are an insult to the doctor, as a scientist and as a human being. I need hardly point out that in every aspect of the physician's training and practice there have been built-in safeguards to prevent him from ever prescribing a drug merely because the clinical reports on it reached him in a fancy four-color brochure, or because the detailman who told him about it wore a pleasant smile.

Physicians are scientists. One of the first characteristics of the scientist is the capacity

to select; he has an educated sense of what is pertinent and what is irrelevant; to achieve a desirable goal, he discriminates in his choice of direction. He alone has the responsibility to decide in each case what drug—if any—should be prescribed for the treatment of each individual patient.

Medical school curricula include courses in pharmacology, and I should like to quote from what one teacher has to say about the purpose and content of his own course.

"We feel that perhaps the most important aspect of a modern course in pharmacology is to prepare the student to evaluate information about drugs throughout his entire medical career. . . . One, drugs must produce their effect through a finite (if presently unknown) number of physiological mechanisms. . . . Two, drugs, like diseases, can be classified into groups having similar, but not identical, actions. . . . Three, differences among effects of drugs within a given class may often be ascribed to differences in their rates of absorption, their specific pattern of distribution, or their rates of metabolism and/or excretion. . . . Four, the evaluation of drug effects can be no more valid or reliable than the data upon which the evaluation is based. . . . Using such intellectual tools as these, the student—when he becomes a physician—will be able to judge for himself the claims made for new drugs."<sup>2</sup>

Those are ground rules which we accept. The basis on which we want our communication to be judged.

When a pharmaceutical company communicates through its promotional material with physicians, it assumes that it is speaking to mentally-mature men and women who have a right to the honored title "doctor of medicine."

Consequently, a pharmaceutical company does not feel itself called upon to instruct physicians as to whether one of his patients suffering from cardiovascular disease should be treated with drugs or by diet or other means, or to warn, on every label, of the

generally known fact that morphine is addicting.

If we were as irresponsible and as careless of the facts in our laboratories, in our pharmacology, in our clinical testing, in our quality control procedures—and yes, in our promotion—as are some of our critics in Congress and elsewhere, then we would all have reason to fear for the future of medicine.

We make no pretense to perfection. For one thing, we're human; for another, we're highly competitive. And our growth rate has been rapid. Some isolated excesses were inevitable. On occasion, perhaps, in our anxiety to be heard, too many of us have shouted at once. There may now and then have been a kind of gaudy clamor, manifested in extravagant formats and an avalanche of mail.

#### High Degree of Responsibility

But again, let us not confuse tactics with objectives, the method with the mission. The remarkable fact is the high degree of responsibility which has so consistently been observed by the mainstream of the industry and its leaders—a responsibility which even our detractors have been forced to concede.

We may even have taken too much for granted concerning our relationship to the medical profession itself. We may have assumed a degree of understanding which is not in fact universal, a general acceptance of our complementary status as fellow members of a team.

If this is so—if there has arisen an idea that there is a conflict between us, that our interests are not identical but inimical, and that our effectiveness does not depend one upon the other—then we need to explore a whole new dimension in our communication. We must face one another on a level of communication other than that of dosage forms and modes of action, and agree on some meanings in the vocabulary of human relationships.

One man's promotion may be another man's education. One man's advertising may be another man's "huckstering." But let us not fall into semantic traps or pitfalls of terminology which jeopardize the goals on which we all agree.

I sometimes suspect that our most persistent and vocal critics are not so much interested in correcting our alleged abuses within the context of American medicine, as in undermining the very structure of American medicine itself. As one man frankly suggested to a Congressional subcommittee: "Drugs should be treated like a public utility."

Our critics profess to be attacking our logistics—the way to get the newest weapons on target in the shortest possible time. But the whole process is a single piece, and you can't snip a thread here or unravel a thread there without weakening the whole fabric. To control prescription drugs as a public utility would be to chill an organic and creative human adventure with the cold hand of bureaucracy. It would clog initiative, dry up research, and by undermining enterprise, it would threaten the private practice of medicine and the welfare of those whom physicians are sworn professionally to succor and to heal.

We believe in our industry—the whole system—for the oldest reason known to medicine. The empirical reason. It works. We hope the medical profession believes in it too.

#### References

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2. Kiplinger, G. F.: What Do Medical Students Learn About Drugs? *American Professional Pharmacist*, 27:31-32, September, 1961.

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## DEPARTMENT OF HEALTH

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

February 1963

Examinations for malaria .....	6
Examinations for diphtheria bacilli and Vincent's .....	158
Agglutination tests .....	478
Typhoid cultures (blood, feces, urine and other) .....	301
Brucella cultures .....	4
Examinations for intestinal parasites .....	2,535
Darkfield examinations .....	4
Serologic tests for syphilis (blood and spinal fluid) .....	22,351
Examinations for gonococci .....	1,448
Complement fixation tests .....	79
Examinations for tubercle bacilli .....	3,407
Examinations for Negri bodies (smears and animal inoculations) .....	225
Milk and dairy products examinations .....	3,926
Water examinations .....	2,195
Miscellaneous examinations .....	4,651
Total .....	41,768

\* \* \*

## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

## CURRENT MORBIDITY STATISTICS

1963

	Jan.	Feb.	*E. E. Feb.
Tuberculosis .....	109	115	134
Syphilis .....	106	124	130
Gonorrhea .....	346	312	293
Chancroid .....	1	3	3
Typhoid fever .....	0	1	1
Undulant fever .....	1	0	0
Amebic dysentery .....	6	8	1
Scarlet fever and strep. throat .....	87	265	100
Diphtheria .....	3	3	2
Whooping cough .....	6	12	21
Meningitis .....	4	2	12
Tularemia .....	0	0	0
Tetanus .....	0	1	1
Poliomyelitis .....	1	0	1
Encephalitis .....	1	0	0
Smallpox .....	0	0	0
Measles .....	34	111	412
Chickenpox .....	178	291	191
Mumps .....	127	76	194
Infectious hepatitis .....	55	62	52
Typhus fever .....	0	0	0
Malaria .....	0	0	0
Cancer .....	647	680	445
Pellagra .....	1	1	0
Rheumatic fever .....	16	9	13
Rheumatic heart .....	37	39	26
Influenza .....	187	7,599	1,441
Pneumonia .....	318	490	326
Rabies—Human cases .....	0	0	0
Pos. animal heads .....	1	2	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH  
STATISTICS AND COMPARATIVE DATA,

1962

Live Births Deaths Causes of Death	Number Recorded			Rates*		
	1962 (Prov.)	1961 (Final)	1956-1960 (Average)	1962 (Prov.)	1961 (Final)	1956-1960 (Average)
Live Births .....	77,787	80,267	82,267	23.3	24.3	25.5
Deaths .....	30,443	29,557	28,654	9.1	8.9	8.9
Fetal Deaths .....	1,597	1,717	1,773	20.1	20.9	21.1
Infant Deaths—						
Under one month .....	1,597	1,673	1,781	20.5	20.8	21.6
Under one year .....	2,387	2,491	2,677	30.7	31.0	32.5
Maternal Deaths .....	49	58	68	6.2	7.1	8.1
Causes of Death						
Tuberculosis, 001-019 .....	271	283	317	8.1	8.6	9.8
Syphilis, 020-029 .....	44	67	64	1.3	2.0	2.0
Dysentery, 045-048 .....	16	6	16	0.5	0.2	0.5
Diphtheria, 055 .....	2	2	6	0.1	0.1	0.2
Whooping cough, 056 .....	2	10	8	0.1	0.3	0.2
Meningococcal infections, 057 .....	11	17	20	0.3	0.5	0.6
Poliomyelitis, 080, 081 .....	5	3	7	0.1	0.1	0.2
Measles, 085 .....	11	10	13	0.3	0.3	0.4
Malignant neoplasms, 140-205 .....	4,019	3,886	3,619	120.4	117.6	112.0
Diabetes mellitus, 260 .....	419	468	394	12.6	14.2	12.2
Pellagra, 281 .....	6	7	11	0.2	0.2	0.3
Vascular lesions of central nervous system, 330-334 .....	4,241	4,174	3,922	127.0	126.3	121.4
Rheumatic fever, 400-402 .....	18	25	34	0.5	0.8	1.0
Diseases of the heart, 410-443 .....	10,343	9,944	9,442	309.8	300.9	292.2
Hypertension with heart disease, 440-443 .....	1,666	1,761	1,778	49.9	53.3	55.0
Diseases of the arteries, 450-456 .....	720	722	628	21.6	21.8	19.4
Influenza, 480-483 .....	131	99	226	3.9	3.0	7.0
Pneumonia, all forms, 490-493 .....	828	807	871	24.8	24.4	27.0
Bronchitis, 500-502 .....	59	48	64	1.8	1.4	2.0
Appendicitis, 550-553 .....	33	30	35	1.0	0.9	1.1
Intestinal obstruction and hernia, 560, 561, 570 .....	163	149	135	4.9	4.5	4.2
Gastro-enteritis and colitis, under 2, 571, 0, 764 .....	132	134	142	4.0	4.0	4.4
Cirrhosis of liver, 581 .....	193	185	183	5.8	5.6	5.7
Diseases of pregnancy and childbirth, 640-689 .....	49	58	68	6.2	7.1	8.1
Congenital malformations, 750-759 .....	386	389	389	5.0	4.8	4.7
Immaturity at birth, 774-776 .....	487	562	588	6.3	7.0	7.1
Accidents, total, 800-962 .....	2,080	2,025	1,992	62.3	61.3	61.7
Motor vehicle accidents, 810-835, 960 .....	948	943	933	28.4	28.5	28.9
All other defined causes .....	4,438	4,260	3,932	132.9	128.9	121.7
Ill-defined and unknown causes, 780-793, 795 .....	1,336	1,177	1,103	40.0	35.6	34.1

\*Rates: Birth and death—per 1,000 population

Infant deaths—per 1,000 live births

Fetal deaths—per 1,000 deliveries

Maternal deaths—per 10,000 deliveries

Deaths from specified causes—per 100,000 population



## *The Woman's Auxiliary*

There are four interesting visits to report this month. The first was with the Pike County Auxiliary whose president is Mrs. J. A. Brantley. The morning "Coffee" was in the home of Mrs. T. D. Cowles. This Auxiliary has only six members; but it is carrying on many activities—including a special one, "The Twilighters," a program designed for teenagers.

The second visit was to Talladega County. Mrs. John D. Rayfield is president. The luncheon meeting was in the home of Mrs. C. L. Salter, Rural Health chairman for the State Auxiliary. Following the interesting business session, the writer gave a talk on Auxiliary projects. Included was a discussion of the effort by the Rural Health Council of Alabama to have a course in driver education under the State Board of Education. We are most interested in this project and ask the support of all doctors and their wives. Please write to your state representative and senator asking their support.

A visit to Calhoun County was a special treat for me. Here was begun my Auxiliary membership which led to the great privilege of serving as Auxiliary president. The Calhoun County Auxiliary has contributed much to the state organization, having three past presidents in its membership. They are Mrs. W. M. Salter, Mrs. N. T. Davie, and Mrs. G. G. Woodruff. We regret not seeing Mrs. Salter. She was not present because of Dr. Salter's illness. It was wonderful to see the other two and many additional members with whom we had served. Mrs. R. C. Simmons, Jr. is the current president. It was a privilege to meet her and the other members of this interesting group.

Tuscaloosa County Auxiliary, visited next, is another which has given special service. We remember with pleasure the convention in Tuscaloosa which celebrated the 100th



MRS. JOHN KIMMEY

annual session of the State Medical Association. The president is Mrs. Earl Brandon. They have two other members on the Executive Board. Mrs. James Guin, Jr. is Health Careers chairman and Mrs. W. D. Anderson, Legislation chairman. It was a pleasure to see them and to meet the other members. The Auxiliary has been quite active as was learned during the discussion of projects and problems.

As my year of service nears its end, I find myself at a loss for words to express my appreciation to all who have been so helpful and understanding. The list is so long that I dare not try to name them. I am very grateful that a doctor chose me for his wife. It is a dedicated profession we serve. Only the minister's wife has a greater opportunity for service to mankind. This year has been one of the most rewarding of my entire life. All of you who helped to make it possible have my gratitude and love.

Sincerely,

*Ida Kimmey*

President

# THE JOURNAL

*of*

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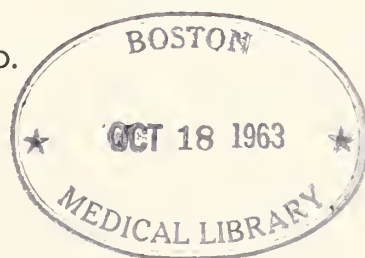
## Adenomyosis: Twenty Years' Experience

John C. Weed, M. D.

and

Albert C. Bryan, Jr., M. D.

New Orleans, Louisiana



More than one hundred years ago, Rokitsansky<sup>1</sup> described the condition that we now know as adenomyosis of the uterus, and since then numerous reports have appeared in the literature detailing the clinical picture. Perhaps the best known publication is that of Cullen<sup>2</sup> in 1908, in which he described both a localized form of adenomyoma and the diffuse form, which has come to be recognized as adenomyosis. Considerable confusion has arisen in the association of adenomyosis and endometriosis. Most recent writers believe

that the two entities should be considered separately and that the term, internal endometriosis, should be abandoned.

Various theories of origin have been offered, namely, misplaced mullerian ducts and remnants of the wolffian ducts, metaplasia, continuity of the endometrial glands with the basilar endometrium, and transplantation of endometrial glands, either directly or by lymph channels. The most widely accepted theory today is that of Cullen, who was able to demonstrate the continuity of the adenomyotic area to the basal layers of the endometrium by serial sections. However, in some isolated instances, it seems possible that Ivanoff's theory of metaplasia<sup>3</sup> must be responsible for isolated adenomyomas, or that Sampson's theory of transplantation of endometrium, that so widely accepted for

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From the Department of Obstetrics and Gynecology, Ochsner Clinic, New Orleans.

Read at the meeting of the Alabama Chapter of the American College of Surgeons in Point Clear, Alabama, Feb. 8-9, 1963.

endometriosis, may occur in the uterine musculature.

### Material

This report is based upon 415 consecutive cases of adenomyosis treated surgically by members of the gynecological staff of the Ochsner Clinic from January 1, 1942, through December 31, 1961. This represents an incidence of 12.5 per cent of all hysterectomies (3315) performed during this twenty-year period. The criterion for establishing the diagnosis of adenomyosis was that endometrial glands, stroma, or both, with hyperplastic reaction in the muscle and fibrous tissue in the surrounding area, be found at least two low power fields from the basal layer of endometrium. Although a number of the cases were considered "slight" or "focal," no effort was made to ascertain the extent of the adenomyosis.

*Age* Adenomyosis is a disease of women in the later reproductive years, as illustrated by the distribution according to age in this series (Fig. 1). Seventy-one per cent were between the ages of 30 and 49, and 49 per cent between the ages of 40 and 49 years. Few cases of adenomyosis occur before the

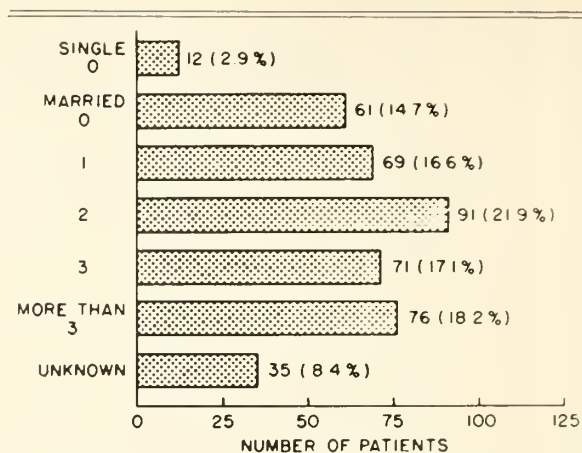


Fig. 2. Parity in 415 cases of adenomyosis.

age of 35; only eight patients in this series were younger than 30 years, the youngest being 24 years of age.

*Parity* Adenomyosis also seems to be a disease of the parous woman (Fig. 2). Seventeen per cent of the married women in this series had had no pregnancies, and only about one-fourth of the parous women had had more than three children, which indicates that the degree of parity does not seem to be an etiologic factor. As one might expect from the age distribution, the last pregnancy occurred more than ten years before opera-

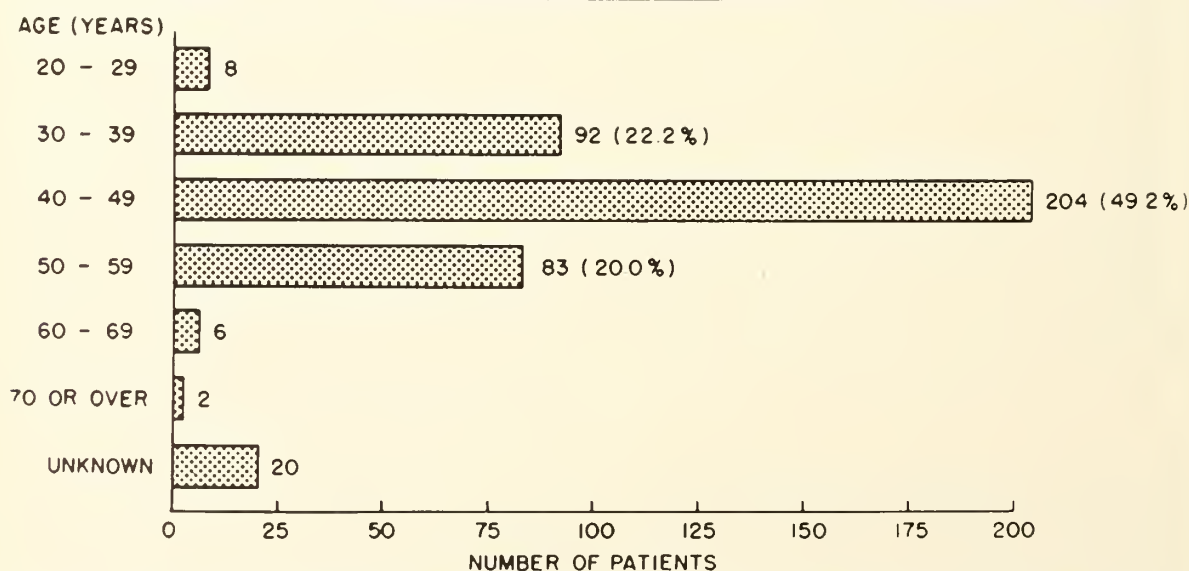


Fig. 1. Distribution of 415 cases of adenomyosis according to age.



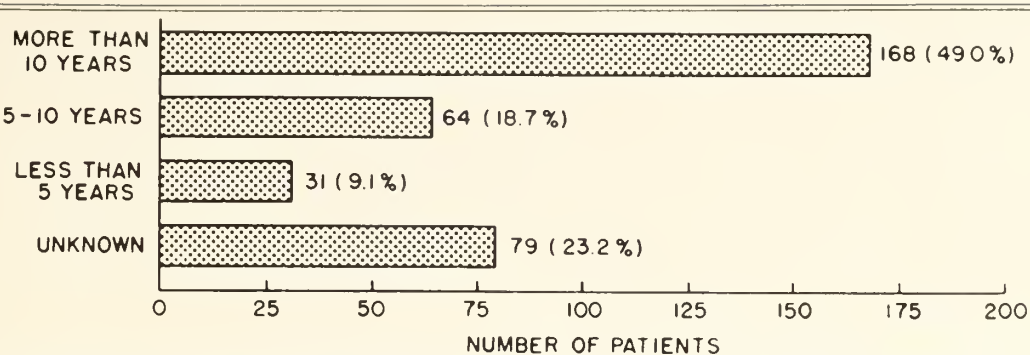


Fig. 3. Years between last pregnancy and operation.

tion in one-half of the parous patients (Fig. 3). The relationship between infertility, either primary or secondary, and endometriosis has long been noted. Perhaps the long interval of secondary infertility in adenomyosis has a similar basis.

*Symptoms* Symptoms leading to treatment for adenomyosis consisted principally of excessive bleeding and pain. Since adenomyosis is a pathologic diagnosis, rather than a clinical syndrome, one would expect to find instances of asymptomatic adenomyosis, and this is indeed true. In 19 per cent of this series there were no changes in the menstrual periods, or amenorrhea was present; hysterectomy was necessary because of symptoms of prolapse or for other reasons. However, bleeding is a major symptom of adenomyosis. The remainder of the patients (81 per cent) had excessive bleeding with regular periods,

polymenorrhea, or postmenopausal bleeding. The most frequent complaint (45 per cent of the cases) was excessive bleeding at regular intervals (menorrhagia). This was reflected in the hemoglobin determination upon admission to the hospital of less than 12 Gm. in about half of the patients; but severe anemia (9 Gm. of hemoglobin or less) was unusual (only 20 patients). These observations are depicted graphically in figure 4.

The other principal symptom of adenomyosis is pelvic pain. Characteristically, this is a secondary kind of dysmenorrhea in that it has gradually progressed after the birth of two or more children. The patient usually reports that her menstrual discomfort has increased to the point of disability in many instances. Dyspareunia, a more common complaint with pelvic endometriosis, assumes an important role, and pelvic pain at other times

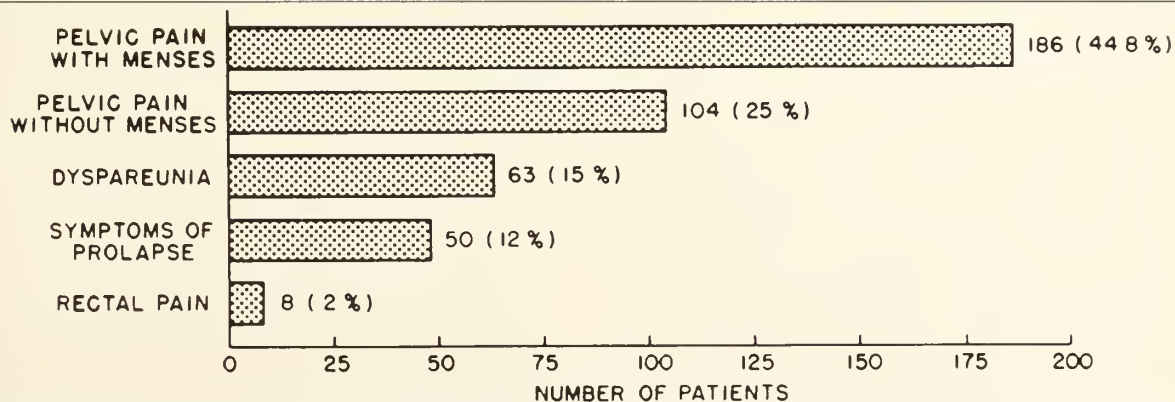


Fig. 4. Type of pain in 415 cases of adenomyosis.

than menstruation may not be attributable to adenomyosis alone, but the pelvic congestion, uterine enlargement, and old obstetrical injuries (Fig. 5). Dysmenorrhea as an isolated symptom without excessive bleeding, in our experience, has been rare.

*Associated Pathologic Conditions* (Table 1). The multiplicity of lesions associated with adenomyosis tends to complicate the clinical picture. In this series, 48 per cent of the uteri contained leiomyomata, most of which

The association of carcinoma of the endometrium with adenomyosis has received attention in the recent literature. Only eight cases of carcinoma of the endometrium were found in our 415 cases (1.9 per cent). This is a considerably lower incidence than that reported by Giammalva and Kaplan<sup>6</sup> and by Johnson and Roddick<sup>7</sup>. In addition, seven patients had invasive or in situ lesions of the cervix.

The assumption that adenomyosis is related

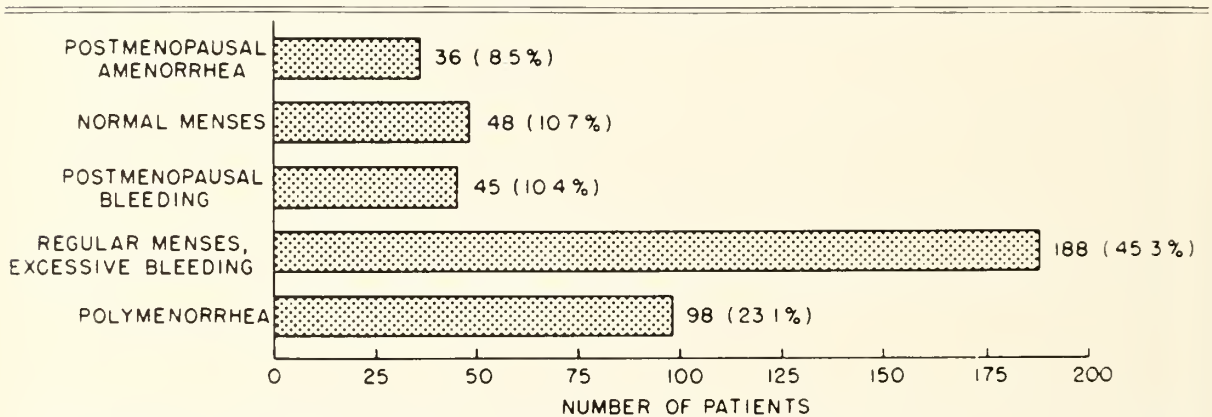


Fig. 5. Menstrual history in 415 cases of adenomyosis.

were small to medium in size, and only five per cent of all the uteri removed in this series had large leiomyomata constituting the principal pathologic alteration. In these, the adenomyosis was of secondary importance. This compares to the 56 per cent in the series of Benson and Sneed, and that of Israel and Woutersz.<sup>5</sup> Endometriosis is relatively rare, occurring in 15 per cent of cases. The possibility that adenomyosis might be influenced by cervical stricture as a cause of pelvic pain or dysmenorrhea has been considered. The fact that only a small number of cervical strictures was noted discounts this as an etiologic factor. Since hyperestrinism has been considered as a factor in adenomyosis<sup>3</sup>, it is of interest that stromal hyperplasia was found in only 11 instances in which bilateral salpingo-oophorectomy had been performed, and all patients had undergone the menopause.

Table 1

**ASSOCIATED DISEASE IN 415 CASES OF ADENOMYOSIS**

<b>Benign</b>		
Leiomyomata .....	(48%)	197
Small to medium .....	173	
Large .....	24	
Endometriosis—external .....		64
Cervicitis—severe .....		118
with stricture .....		20
Ovarian pathology .....		45
Simple cysts .....	29	
Dermoid cysts .....	3	
Stromal hyperplasia .....	11	
Pseudomucinous cystadenoma .....	1	
Fibroma .....	1	
Thyroid nodule .....		6
<b>Malignant</b>		
Carcinoma, endometrium ....(1.9%)		8
Carcinoma, cervix .....		7
Invasive .....	4	
In situ .....	3	
Carcinoma, ovary .....		2
Carcinoma, breast .....		6

to hyperestrinism is common (3,8) and is supported by our observations. In 53 per cent of the endometria studied proliferative or hyperplastic changes, some with atypia, and secretory changes were noted in only 25 per cent. Since surgical treatment was not timed by the menstrual cycle, one would anticipate an equal division between secretory and proliferative endometria. This is our experience with random sampling (Table 2). Previous surgical procedures performed on patients are listed in table 3. Ringrose<sup>1</sup>,

than the expected incidence for hysterectomy for any other reason, 12.5 (*vide supra*).

### Comment

Adenomyosis is often a surprise diagnosis to many physicians, and the incidence of preoperative diagnosis uniformly is low<sup>3,4</sup>, especially among surgeons who do not limit their practice to gynecology and obstetrics. The inability to isolate specific symptoms and signs relative to adenomyosis increases this difficulty in accuracy of preoperative diagnosis, and the pathologic conditions often associated with adenomyosis also confuse the picture. The evaluation of symptoms by Benson and Sneed<sup>1</sup> indicates that the symptoms of adenomyosis alone and adenomyosis complicated by associated disease parallel one another through the varying age groups, and it is virtually impossible to separate adenomyosis alone and adenomyosis complicated by other pelvic disease. The size of the uterus clinically has been repeatedly mentioned as a criterion for the diagnosis of adenomyosis; yet our experience indicates that approximately one third of cases of adenomyosis are not associated with clinically demonstrable uterine enlargement.

Ovarian failure has been suggested as a factor in the increased menstrual bleeding of patients with adenomyosis, and this contention is supported by the fact that hyperplasia of endometrium, proliferative endometria, and absence of secretory changes are common. However, one might anticipate any of these findings because of the age at which most cases of adenomyosis are treated, anovulatory cycles becoming more frequent after the age of 40 years. Pelvic pain, increased menstrual bleeding, and progressive dysmenorrhea, associated with moderate anemia and varying degrees of incapacity, should suggest the diagnosis of adenomyosis, in spite of the fact that other disease may be present. No effort has been made to establish the frequency of preoperative diagnostic ac-

Table 2

#### CONDITION OF ENDOMETRIUM AT OPERATION (290 Cases)

	Cases	%
Inactive Atrophic.....	42	14.5
Proliferative.....	107	37.9
Hyperplastic.....	47	16.2
Secretory.....	72	24.7
Endometrial Polyps.....	22	7.6
	290	100.0

Table 3

#### PREVIOUS SURGICAL PROCEDURES AMONG 415 CASES OF ADENOMYOSIS

Sterilization Procedures.....	59
Surgical.....	45
Radium.....	5
Diagnostic Curettage.....	50
Caesarean Section.....	22
Myomectomy.....	11
Cholecystectomy.....	12

in a small series, noted that curettage had been performed in 59 per cent of his cases; he suggested that vigorous curettage in the soft postpartum uterus might be a factor in the later development of adenomyosis. Our experience does not support this contention. Similarly, the incidence of cesarean section and myomectomy as antecedent trauma to the uterus probably has no etiologic effect, since the incidence of adenomyosis in the uteri removed at cesarean hysterectomy, 15 per cent, is little greater



curacy in this series, but it is believed to be about ten per cent.

Because of the two principal symptoms, bleeding and pain, management of adenomyosis should be surgical removal of the uterus. In a few cases of adenomyoma, local excision may be performed and usually these represent "surprise" diagnoses. We have utilized norsteroids in the premenstrual phase in those patients with excessively profuse regular cycles but with indifferent success, finally resorting to definitive hysterectomy. Similarly, repeated curettage yields only temporary relief. The presence of pelvic pain, increasing dysmenorrhea, and excessive menstrual bleeding indicates hysterectomy as the treatment of choice.

### Summary

Adenomyosis uteri was diagnosed 415 times among 3315 hysterectomies, an incident of 12.5 per cent of all hysterectomies in a twenty year period. A disease of parous women, chiefly in the fifth decade of life, adenomyosis is manifested by hypermenorrhea or polymenorrhea and pelvic pain. Associated pelvic disease, such as leiomyomata, endometriosis or pelvic congestion syndrome, all common

in this age group, confuse the diagnostic picture, decreasing preoperative diagnostic accuracy.

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# Convalescence Shortening A Necessity:

*Summation of a Five Year Study Using Medical  
and Physical Agents in Combination.\**

**Kenneth Phillips, M. D., F. A. C. P.**

**Coral Gables, Florida**

## **Introduction**

Medical Care has become costly because it is good; in our country, the best in the world. In sickness, however, public acceptance of the ratio of cost to both efficiency and general economy has become hoodwinked.

Philosophically, there is little doubt that the roots of current problems such as Medicare, cost concern of insurance carriers, industrial rate schedules, and others tie into this problem of sickness expense. Morbidity, therefore, becomes a direct challenge which must be met and this means shortening of convalescence whenever possible.

Medical science and research have made amazing strides in speeding recovery from disability proven for example, by any comparison of today with the close of World War II; but the problem still confronts us and we must adopt additional tested regimes when available.

Little or no aid can be obtained from documented group study of this subject, for while by personal communication we find increasing numbers recognizing the additional value of combined treatment programs, their studies have been confined to specific pa-

thologies in place of any group study on convalescent time comparison, our objective.

With the advent of a relatively young specialty, physiatry, the clinical values of physical agents, some older than the hills, have been given a revolutionary survey. This has contributed at least two currently valuable approaches in therapy to the field clinician. 1. Research has produced newer physical energies useful in combating disease, such as ultrasound, mobile galvanism and pulsed short wave. Some of these agents have been sufficiently simplified to be used in the home. 2. A much broader conception of clinical application of these physical agents has been developed whereby every specialty can use some of them.

Combination therapy, referred to as synergistic action in the more ancient art of practice, has been neglected since the advent of specifics. It should be revived because in many types of illness it can contribute to both increase in recovery time and efficiency of end result.

## **Study And Evaluation Plan**

A five year study and observation program extending from 1956 to the present time was conducted. With a target objective engulfing such generalities as convalescent time and efficiency of end result, we obviously could

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\*Read before American College of Physicians, Southeastern Section, Point Clear, Alabama, October 20, 1962.

not pinpoint statistical specifics. There are too many variables for specific figures; but sufficient gross trends can be assembled to render the results clinically valuable.

A gross of 1200 cases ranging in age from 12 to 97 years, both sexes included, were observed in the program. Variables, together with triple cross check rules and other screening requirements, reduced the total to approximately 440 cases declared acceptable for final tabulation.

Measurement data consisting of therapeutic progress, convalescent time and efficiency of end results were cross checked three ways independently. (1) Subjective and objective symptoms of patient, (2) recordings by technicians and nurses, and (3) evaluation by attending physician. Obviously, the most valuable controls were cases previously failing to respond to single treatment, then treated by combined methods. Unfortunately, they represent the minor group available for study. Review of examples summarized in Biophoto and tabular form will aid in clarifying some of these features.

Multiple variables definitely affecting convalescence, for example distress threshold, psychosomatic overlay, litigation in accident cases and evaluation judgment were all instituted in the screening, and it is therefore felt that the final trends shown are valuable to clinical practice.

### Groupings Of Cases Studied

Only a minority of the cases were hospitalized. This allocated the study to one of group testing and presented difficulty in choice of categorical assembly.

To clarify the most within the least space, Tables, Graphs and Biophotos illustrate a clinical conception. They further present a summation of (1) disabilities amenable to combined treatment by anatomical systems, (2) many pathologies which respond, and (3) examples of technic.

From these, a field clinician can easily broaden his concept relative to both the pa-

thologies which have responded and suggested choice of combined modalities used. Once adopted, practical experience will soon convince even the skeptic of the clinical value of combined management in nearly all fields.

### General Discussion

Our target objective has been to show that convalescent time can be materially shortened and in some cases end results more efficiently obtained by using a combined treatment regimen of medical and physical agents. The necessity of reducing cost of medical care whenever possible is, of course, conclusive.

The five year statistical study reported represents only an end portion of a long practical observation in combined management extending even to artificial fever therapy instituted 25 years ago. Interestingly, the art of the synergistic principle was more widely practiced then than is evidenced now with the advent of so many specifics. Ample evidence indicated that too many medical physicians have neglected to truly study out the potential values of these available physical agents, used in combination with drug and chemical procedures. Otherwise, they would be used far more widely. The tendency has been to leave the welfare of physical therapy to technicians or irregulars. This is wrong and our objective study indicates it strongly.

In this report, unavoidably generalized, information showing a clinical trend, valuable in practice, is about the extent expected. It does pinpoint the current problem of sickness cost and demonstrates broad application.

A review of Table 1, grouped under anatomical systems, gives a quick reference to several common clinical entities proven to be responsive to the combined management. Table 2 selects a few examples, trying to convey some of the agents we used and found valuable. Obviously, it is intended only as a guide. Individual selection of agents would differ with a physician's own preference; but



TABLE 1

Prevalent Disabilities Proven to be Amenable to Combined Treatment, Grouped by Anatomical systems.  
Intended to Serve as a Reference Guide.

Head and Face	Chest	Abdomen	Bone-Joint	Neuro-Muscular	Miscellaneous
Acute Colds: Viral—Ordinary*	Pneumonitis	Spastic Gastro- Intestinal Syndrome	Bursitis Acute—Chronic	Palsies Paralyses	Skin: Acne Scars
Sinusitis: Acute Chronic Allergic	Emphysema	Mucous Colitis	Arthritides: All common types	Whiplash Headaches	Plantar Warts Postoperative Oedema and pain
Face Palsy: Bell's Weber Post Accidental or Surgical	Asthma	Pelvic Inflam- matory disease Chronic— Non-specific	Delayed Frac- ture Healing	Low Back Syndrome (Disc—Neuro- genic)	Aid to Grafts (Healing- Oedema)
Elastosis (Metabolic)	Cardiovascular		Osteoporosis	Myo-fascitis	
Cellulitis: Dental— Post surgical				Strain Injuries	

TABLE 2

Examples of Convalescent Shortening Using Combined Management in Some Common Disorders, Notably  
Resistant to Routine Measures.

Disabilities	Cases	Age Range	Sex M-F	Medical or Surgical Agents	Physical Agents	Average Treat- ment Course	Average Improvement or Recovery*	Relevant Previous Data If Applicable
Acute Colds: Viral—Ordinary Acute Sinus	50	8-65	18-32	Antibiotics Antiallergies Anticholinergics Antistress	Ultra-violet to nose and throat Ultrasonic	1	24-48 Hours	
Sinusitis: Chronic Allergic	15	32-47	9-6	Surgical for obstruction or polyps Antiallergies Endocrines	Ultrasonic Infra-Red Ultra-violet	3 X wkly. for 4 wks.	3-4 weeks	All cases failures from one or more years previous treatment
Bursitis: (Acute-Chronic) Shoulder Elbow, Scapula Calcification	30	42-55	29-1	Analgesics Corticosteriods Adenylic Acid Mg.So4	Ultrasonic Cryotherapy Galvanism Hydropacks	Acute—Daily for 3. Chronic—3 X wk for 3 to 4 wks.	Acute—3 Days. Chronic— 3 Weeks	Variable or prolonged. 16 Failures from previous treatment.
Emphysema Bronchiectasis	10	44-67	9-1	Liquifying Expectorants. Bronchial di- lators. Aerosols	Postural drainage Low voltage- contractive Ultrasonic Short Wave- Pulsed	3 X wk. for 8 wks.	Improvement in 7. None in 3.	Three years prior treatment with no improvement.
Spastic Gastro- Intestinal Syndrome	46	32-58	15-31	Gastric chemistry Glucose Tolerance Test Antispasmodics Digestants	Short Wave (Reg.-Pulsed) Low voltage- contractive Galvanic	3 X wkly. for 3 wks. 1 X wk for 6 wks.	Improvement in 38. Time variable	All chronic. Not controlled by previous management.
Pelvic Inflam- matory Disease Chronic— Non specific	15	27-52	0-15	Endocrines Antispasmodics Diuretics	Short Wave (Reg.-Pulsed) Ultrasonic Galvanic	3 X wk. for 3 wks. 1 X wk for 4 wks.	Improved 10 in 2 wks. 2 in 4 wks. 3 no improve- ment	All failures with previous manage- ment.

\*Improvement means 50% or more. Recovery means control of distress symptoms to return to duty.

TABLE 3

## Illustrative Examples of Combined Treatment Technic in 4 Common Disabilities

DISABILITY	CASES	DURATION	PREVIOUS MANAGEMENT	MEDICAL OR SURGICAL AGENTS*	PHYSICAL AGENTS*	RECOVERY-RESULTS-COMMENTS
Neck: Whiplash Headaches Myofascitis	32	10 Weeks to 5 Years	Traction Procaine Physiotherapy Steroids Psychotherapy Analgesics etc.	Fusion in defects ACTH-Adenylic Compounds Ca. & Mg. Salts Prolotherapy	Ultrasonic Mobile Galvanism Short Wave (Reg.-Pulsed) Iontophoresis Hydropacks	Every case a previous failure. All 32 asymptomatic in 6 to 8 weeks.
Facial Palsy: Bell's Weber Post accident or surgical	72	24 Hours to 10 Years	44 Watchful Waiting 10 Physical therapy 8 Surgery 10 None	Histamine (early) Prostigmin (Later)	Viability Test with Y-4 Unit Ultrasonic—Early to decongest. Home Use Model Y-4 Unit	10 Early—Rapid response 41 Chronic—Improvement 6 months. 7 Postoperative—Quick results. 14 No results
Elastosis (Metabolic group)	110	Variable but all chronic	30 Plastic Surgery 80 Cosmetic Sanding Chemosurgery	Nutritional, Endocrine, Tonics when indicated.	Home Use of Facial Unit Y-4	92 Marked improvement 12 Moderate improvement 6 No improvement
Low Back Syndrome: Strain Disc Myofascitis Neurogenic	Strain-20 Disc-10 Others-34	1 Day to 8 Months	Traction Steroids Procaine injections Braces	Histamine Oral neuro-muscular blocking agents. I.M. and I.V. Steroids Surgery when indicated Ca. & Mg. Salts	Exercises Iontophoresis Mobile Galvanism Ultrasonic Short Wave (Reg.-Pulsed) Hydropacks	Statistical time element variable. Response satisfactory Disc—Recovery (Without surgery)

\*Agents listed are intended to serve as aids to individual selection.

the value of combining the agents will still hold.

Tables 3 and 4 point to a value trend. They outline examples of outstandingly common maladies, renowned for their chronicity and rebellion to treatment. As much comparative data as practical is crowded into the columns, trying to bring a concept into summation.

The various figures emphasize two essentials of the study. 1. To draw attention to modern physical agents now available and specifically designed for efficiency and adaptability to the treatment area desired. These are relatively new and beyond the psychiatric specialty; they are not yet as well recognized as they should be. 2. Biophotos (medical school technic) show values in both convalescent time and efficiency in end result.

In many chronic and treatment resistant ailments, recovery has been retarded or defeated due to practical impossibility of giving daily treatments over long periods of time. Patients could not stand either the cost or time required. Home physical therapy will

be a valuable contribution to this problem. Various home programs have been emphasized by Mayo Clinic and others for several years and more recently some Veteran Hospital groups have been studying the values of more prolonged daily treatment sessions.

For facial maladies, palsies, post accidental or surgical, and the dermatological problem of elastosis in the aged and metabolic group, one such small unit for home or office use (Fig. 2) is now available. It has undergone broad clinical testing and is doing a most satisfactory job. As the combined treatment concept becomes more widely adopted, other modalities will undoubtedly be developed. Figures 2, and Table 2 outline a composite guide to management of acute and chronic oral and nasal maladies, which we have found effective. The value of Ultraviolet energy in these conditions has been described over many years,<sup>1,2,3,4,5</sup>; but somehow became lost in the shuffle of specifics.

The magical advent of Ultrasonics, as a decongestive agent to many inflammatory

TABLE 4.  
Composite Average Recovery (back to work) Curves  
3 Insurance Carriers - 90 Cases - Common Chronic  
Disabilities. Recovery Lines Show Value of Combined  
Method of Treatment.

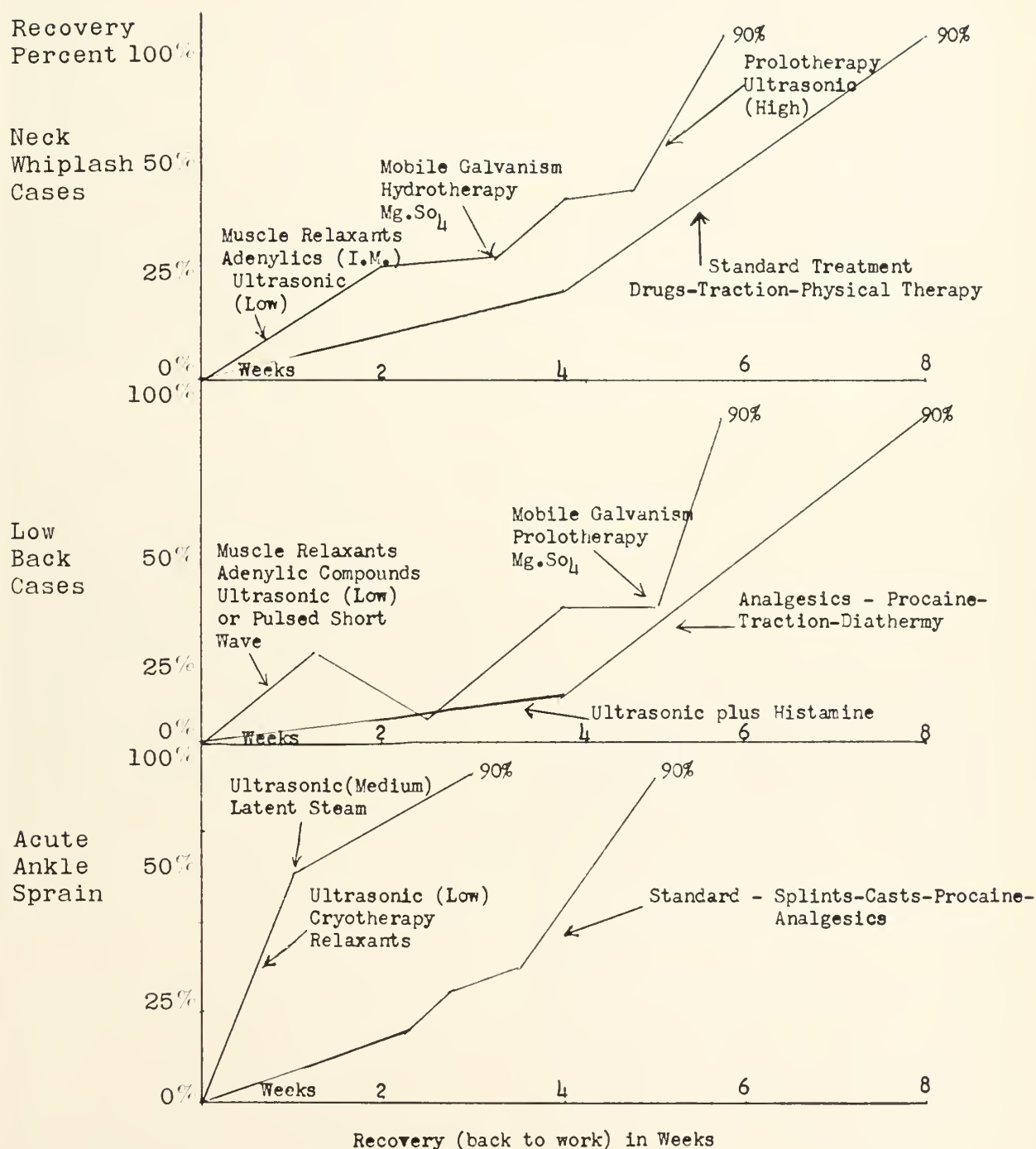






Fig. 1

To Illustrate Obtainable Results in Facial Imbalance  
(Case of Post Accidental Palsy)

A. Four Months after Plastic Surgery; B. End Result from Home Use of Facial Exerciser Model Y-4.

conditions, brought forth an efficient portable unit better adapted to the face, neck, hands, knees and feet, Fig. 2. Ultrasound works well in the treatment of plantar warts.



Fig. 2

Composite Illustrating Newer Physical Agents Now Available. Note Compact Size Lending to Portability.

For the Dermatologist and Generalist, the Hyfreator, Fig. 2, is so well known that it hardly needs mention. All these, and more not mentioned due to space scope, are available to clinicians. They represent progress, long and expensive research, are portable and adapt themselves to office or home call application. When used, they will add to treatment efficiency.

The remaining tables and graphs reflect guides to aid those becoming interested in combination management.

A most intriguing old concept, by Ginsberg, Holland and others, with a new revamp approach, is under present clinical operation by several and looks most promising. It is the utilization of Shortwave energy, but in "pulsed" application delivering "work" and "rest" cycle ratios to the tissue. See Fig. 2.

### Summary And Conclusions

Is convalescent shortening truly a current necessity? Yes, and especially if treatment efficiency can be accomplished simultaneously, the combined treatment approach using both physical and medical agents will be found helpful.

Is there any broad physiologic fundamental concept that may be helpfully applied to the adjunctive action of these physical agents? Yes, and the clinical lag of appreciation has probably been responsible for retarding their use. Heat is an end product of any applied energy and our past concept has bogged down, ascribing all the benefits to thermodynamics. This is not realistic, as is shown in Table 5.

Over many years, independent workers have reported values of these various physical agents singly. But only in recent reports has

the trend tended toward a clinical coordination,<sup>6,7,8,9</sup>.

Heat, in some degree, is always a facet; but certainly diathermy is not the only biodynamics with these agents.

Cellular micro massage, membrane permeability changes with improvement in intracellular exchange and neuro-endocrine functional enhancement all share in the benefits. Studies from world wide sources have confirmed them but we have been slow to incorporate the findings into clinical application.

Dosage with these agents is equally as important as that with drugs. This has been horribly neglected and responsible for many failures. By observation it will be found that the static state of tissue-metabolic excitability at the pre-treatment level will determine the stimulative or depressant reaction

TABLE 5

Relative Predominant Clinical Actions of Basic Physical Agents: An Aid to Clinicians for Objective Selectivity

Ultrasonic	Ultraviolet (Cold Quartz)	Shortwave	Low Voltage	Hydrotherapy Latent Steam
<b>Decongestant:</b> Acute Pain Cellulitis Sprains Bursitis Postoperative or dental pain Oedema	<b>Action Both Electronic and Biochemical:</b> Bactericidal Fungicidal Phagocytosis Calcium Metabolism	<b>Standard:</b> <b>Heat:</b> Increased Fluid Exchange Molecular Vibration Evidence of Endocrine Stimulation Chest Abdomen Pelvis and others	<b>Galvanic</b> (Polarized) Electrolysis Fibrolytic Iontophoresis Myositis Cervicitis Scars with con- tracture  <b>Mobile or Ionic:</b> Acid—Base Equilib- rium Electromagnetic tissue balance  <b>Contractive:</b> Palsies Vasomotor Emphysema Elastosis	<b>Hydropacks or Whirlpool:</b> Principle of moist heat.  Increase circulation to superficial structures.
<b>Intracellular Exchange Factors:</b> Low Back Discs Peripheral Vascular Joints	Acute Colds Indolent Ulcers Skin Grafts Dermatologic lesions	<b>Pulsed:</b> Low Back Chest Arthritis Pelvis		
<b>Fibrolytic:</b> Fibrositis Scars Plantar Warts				
<b>Autonomic Nervous System:</b> Root sonation for peripheral effect.				

to the agent. The better this is understood, the better will be the clinical results. We recognize this with drugs, why not with physical agents?

There is no branch of medicine or surgery that cannot beneficially use one or more of these adjunctive measures in combination with conventional routine.

Table 4 is most informative. Industrial insurance carriers cooperated and from their records graphic curves (90 cases) showing average disability time were constructed covering three commonly met chronic disabilities.

Disability shortening is self-evident in the group receiving combined treatment; but what physiological basis could there be to explain it? Our results closely resemble that of Conant<sup>9</sup> who used combined management.

In the neck cases, we believe the immediate response is due to the decongestant action of low dosage ultrasound. Then a lull occurred and upon changing to Mobile Galvanism (for fibrosis softening), iontophoresis with Magnesium Sulphate (analgesic and antispasmodic) another recovery upswing ensued. Note the second lull and upswing. We feel that prolotherapy (becoming increasingly popular) and a return to high dosage ultrasonic (softening of chronic inflammatory changes) in combination attacked the problem of fibrosis and ligamentous instability.

In the low back syndrome, much the same reasoning can be applied, but note the sudden early peak and valley so commonly seen. We believe these cases sustained a disc subluxation. Ultrasonic energy, properly applied, is exceedingly valuable in such disc syndromes. Studies in Europe and America have confirmed it.

With acute ankle sprain the program indicated has proven to be dramatic. We have observed it in several hundred cases.

Lastly, with the ever increasing scientific pace of the space age program, newer biological discoveries are contestants in the same race.

Polarized galvanism has been advantageously used over many years. Now under clinical study, we have the principle of unipolar galvanic engulfing the conception that the acid base balance of the body is electromagnetically maintained. This will probe far into the yet unknowns of biophysics and chemistry.

And so, all these weapons for combating sickness we now have; but there will still be more to come.

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# ERYTHEMA INFECTIONOSUM

(Fifth Disease)

## Report Of An Outbreak

William Lies, III, M. D.

and

Samuel K. Morgan, M. D.

Dothan, Alabama

It has been our experience during the recent past to observe and identify a clinical entity little thought of at present whenever erythematous eruptions are encountered. At onset, the clinical appearance and manifestations were not thought to be typical of those of any usual exanthem. However, on closer clinical, and, in certain cases, laboratory examinations, the diagnosis became more readily apparent. It is the intent of this article to again suggest that such an entity as erythema infectiosum does, in fact, exist and should be considered whenever the manifestations described present themselves. Two hundred eighteen cases were observed from February

to May, 1962 with the epidemic centered on one school area. We feel this to be of particular importance to this immediate area because the same or similar eruptions have and will be observed in adjacent locales.

### Epidemiology

The disease was originally described by Tschammer in 1889 as a modified form of measles and given its present name by Stricker in 1899. The incubation period is generally considered to be six to 14 days. The duration of the disease may be from three to 20 days. The illness is generally included in the erythematous groups excluding scarlet fever, as characterized by redness of the skin, sudden onset, rapid evolution and short duration. In 1957 Werner and Associates reported a cytopathic agent in tissue culture from throat

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Dr. Lies is a graduate of Duke University School of Medicine and is a practicing pediatrician.

Dr. Morgan is a graduate of Tulane University School of Medicine and is engaged in the practice of pediatrics.

washings and stools of the patient with the acute disease. Significant antibodies were demonstrated in the convalescent serum also. However, further study will be required before the etiology can be clearly defined.

### Clinical Picture

Erythema infectiosum (Fifth Disease) is a mildly infectious childhood disease characterized by a typical eruption and minimal constitutional findings. The rash first appears on the face (mainly the cheeks) as a bright erythema. Circumoral pallor is frequent. There is usually a spread of rash to the extremities and sometimes the trunk. This rash gives the appearance of a violaceous reticuliform network. In this series the upper arms and thighs were most commonly affected. The rash may last as long as fourteen days but usually clears in seven to ten days. When fading there may be "ring and wreath-like formations" (erythema annulare). Other than rash, there was always a paucity of physical findings. Generally, these patients felt well in all respects except for occasional minimal itching, and, rarely, low grade temperature.

The laboratory findings are leukopenia for the first two days followed by slight leukocytosis with increased numbers of eosinophiles and lymphocytes usually being found. Random throat cultures on initial patients failed to demonstrate any beta hemolytic streptococci or other significant pathogenic organisms. Other laboratory procedures were not usually performed on these patients. The differential diagnosis includes the maculopapular diseases, allergic rashes, and the newer reported viral exanthems (i. e. Echo 9, Coxsackie virus, etc.). The accompanying table shows the total cases reported to the local Public Health Department. However, this number could conservatively be doubled because of the known occurrence in younger siblings and other younger contacts. All of these reported cases occurred in white children.

Table I

Schools (All In City)	Number Of Cases
Girard .....	12
Selma .....	113
Cloverdale .....	6
Southside .....	12
Rose Hill .....	27
Grandview .....	14
Wilson Street .....	5
Highland .....	6
Out of City .....	23
	218

### Treatment

There is no needed treatment, except symptomatic, in this benign, self limited disease. The use of occasional antihistamines and colloidal baths was all that was found indicated in this series. There were no complications or sequellae noted in any patient. The prognosis in all cases was excellent.

### Summary

Two hundred eighteen known cases, and possibly twice that number of verbally documented cases, of Erythema Infectiosum are reported and discussed. These cases occurred in epidemic proportions and were manifest primarily by an erythematous rash. Laboratory data was non-contributory. Treatment was symptomatic. All cases were self limited. Prognosis was excellent.

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## *Editorials*



**Dr. Julius Michaelson**

A signal honor has been conferred upon the medical profession of the State of Alabama in the election of Dr. Julius Michaelson as president-elect of the American Academy of General Practice. He is the first Alabamian to hold this significant position.

Dr. Michaelson was elected by the Academy's house of delegates by a 65-37 vote over Dr. Herbert Salter, Ohio general practitioner.

The American Academy of General Practice is the second largest medical association in the United States.

Dr. Michaelson of Foley, Alabama, has been president of the Alabama Chapter of the American Academy and a member of the board of directors for seven years. He has been a delegate to the national academy meet-

ings for six years. For the past two years he has been chairman of the board of directors of the national academy. This chairmanship carries as much or more responsibility than the presidency, but not the prestige.

Dr. Michaelson's work with the State Medical Association, the Alabama Chapter of the American Academy of General Practice, the American Academy of General Practice, the American Medical Association, his county medical society, and his many civic activities well qualify him for the position of president of the American Academy of General Practice.

We go along with the campaign slogan known to general practitioners all over the United States:

**"WE LIKE MIKE!"**



## "SEE YOU IN ATLANTIC CITY"

The American Medical Association will hold its 112th annual meeting June 16-20 at Atlantic City. In urging you to attend, I would like to write briefly about an aspect of science that is rapidly becoming a very serious problem. I refer to what scientists have called "The Publication Explosion."

Research men are faced with the dictum of "publish or perish." Naturally, they publish. They publish so much that some areas of science now have such a volume of literature that it is often cheaper and faster to repeat an experiment than to search the literature and find out what others have done in the same field.

It has been said that it would be necessary for a physician to read one book an hour just to keep up with new findings in his own specialty. This obviously is impossible.

There were 4,000,000 scientific documents published in 1962. These included some 3,000,000 papers and articles in some 70,000 technical and professional journals. The bulk of these are in the life sciences, particularly medicine. They are published in at least 55 different languages, in almost every country of consequence in the world.

Faced with this overwhelming deluge of paper, the physician in practice, already one of the busiest men in his community, may be inclined to just throw up his hands.

The scientific meeting helps greatly to fill the gap and to help the physician keep

abreast of new developments. At the AMA annual meeting in a short space of four or five days, the physician has his choice of literally hundreds of scientific papers covering the broad spectrum of medicine. He can select half a dozen lectures daily from the program as a whole. Or he can concentrate on his specialty section and its meetings.

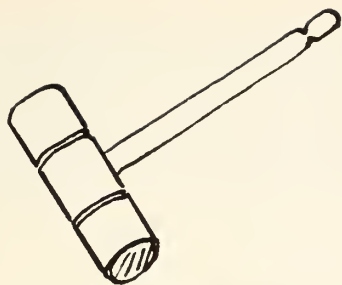
The physician can select outstanding medical motion pictures, fresh from the production line. Or he can view live telecasts of surgery and medicine in action in new areas.

It would take years of reading an hour a day to learn all that can be learned in five days at the annual meeting of the AMA. The scientific exhibits alone are a good postgraduate course in medicine.

All of us as physicians are well aware of the problems of keeping abreast, of bringing the findings of the researchers into our practice as soon as possible. Through the annual meeting of our national association we can make considerable progress in this important respect.

As president of the AMA, I personally urge every American physician to make plans now to attend this annual meeting June 16-20 in Atlantic City.

George M. Fister, M. D.  
President, AMA



# President's Page



To have been only a member without honor or assigned position of trust would have been gratification enough for the privilege of belonging.

To have been signally favored by being given various official duties over the years and then elected to the highest position there is in organized medicine in Alabama brings a thrill too great for description and so appreciated until one is without words to express adequately his thanks to you for this confidence shown in him.



One is not unmindful of the greatness of the preceding presidents and their programs, hence one must co-operate and be guided by the boards and committees in order to initiate and carry out any program.

The leaders of the Medical Association of the State of Alabama for this year will be emphasizing relationships—inter, intra, and public—because we feel that getting all categories of service agencies better acquainted with what each is doing will bring about more comprehensive and profitable results to society in Alabama.

No one can disprove the fact that each such agency or profession is interdependent on the other for its best accomplishments; therefore when all work co-operatively together for their several goals, the composite attainments will tend to upgrade the standards of living for every citizen in the state.

All can do this job together better and more economically than either group can alone.

When such agencies have open minds with lines of communication free to all, there should be less muddling through and less chaos because of a lack of intelligent know how. It is high time these groups who are educated and specifically trained to direct the activities of human endeavors in our state were being alerted and given such tasks. By placing members of these many professions in positions of leadership there naturally will come an improvement in the social, cultural, and economic environment in Alabama. Your leaders this year will try to acquaint these other organizations with what organized medicine is attempting to do for our people.

This must be a total and all inclusive objective. None should be denied an opportunity to receive or contribute to these goals. All committees, county society officers, counsellors, delegates, and medical college instructors will be invited to engage in whatever procedures they think necessary in order to make these objectives successful.

Also, let every member consider it his duty, responsibility, and personal concern to help bring about a better doctor image among his patients during this year.

As of now the science of medicine is at its zenith and rising; therefore let us reactivate that very important element, known as the art of medicine and thereby regain some of the singular respect we have recently lost.

*J. S. Daves, M.D.*



## Large Grant Awarded to Dr. Edwards

Dr. Sterling Edwards, professor of Surgery and chief, Cardiovascular section, has received a National Institutes of Health grant for \$168,000 over a seven-year period, for his research work in Vascular Prosthetics.

Dr. Edwards, renowned for his role in the development of synthetic arteries, will use the new grant to continue his work in arterial grafts and for his newer project of research in building of heart valve replacements.

In an effort to combat results of arteriosclerosis, which is the basic cause of 50 per cent of all deaths, surgeons long have labored to refine techniques of freeing clogged arteries. Some time ago, the diseased artery was opened, cleaned out, and sutured together. However, years of disuse, during which time the calcified substance was build-

ing up, caused the artery to atrophy, and circulation could not be fully restored. Eventually the artery would close again.

Since 1955, Dr. Edwards has been concerned with finding a better technique. He began with the method then in use—that of replacing portions of the artery with a tailored piece of fabric. The portion was removed and immediately replaced with a tailored cloth artery graft. The cumbersome necessity of having someone in the operating room to tailor and stitch the fabric moved surgeons toward some sort of improvement of the technique.

The next step saw the use of prefabricated tubes of nylon as a material for the graft. This synthetic, however, soon lost its strength, requiring a repeat operation. As surgeons



in this field continued to experiment with various substances, a synthetic called Teflon was tried, and it proved to be the most durable and satisfactory material for this purpose. Tubes of different lengths were manufactured and the size selected during the operation.

Durability of Teflon is attested to by the fact that it can be safely dipped in fuming nitric acid, a substance which can melt metals! Amazingly enough, the Teflon is purified by a nitric acid bath before human implantation.

Dr. Edwards' major contribution to the synthetic arterial graft was the concept of crimping the Teflon tube, thus making it flexible much as the human artery itself is flexible.

With more and more experience in this type of operation, and with studies of results obtained—only 50 per cent successful—Dr. Edwards conceived the idea of widening damaged arteries with the patient's own vein. The possibility of great benefits which could be derived from such an operation was intriguing—such a patched artery would, if the operation were successful, remain flexible and could last indefinitely. Grafts in the thigh arteries, for instance, require flexibility, as do arteries which span joints. Teflon had been shown to harden after some time.

The Medical Center surgeon began his experimentation with tissue grafts. He found that he could borrow some expendable vein in the thigh to widen the narrow diseased portion. In the past three years, he and his surgical team have performed fifty of these operations, 46 of which have been successful.

However, Dr. Edwards said these cases are still under study, and it remains to be seen whether or not the tissue will continue to last and perform its function.

Arterial grafts of this type initially developed at the University of Alabama Medical Center, are now performed by surgeons all over the country.

Dr. Edwards' second research project is

concerned with replacing damaged heart valves by a similar method—using expendable vein or artery from the patient's own body. Since the human body will not tolerate the transfer of tissue from another human body, he again had to locate a vein from which it was possible to "steal" without doing any great damage. He found such a vein near the heart and by simply shortening it a bit, he could obtain his material.

Heart valves, which prevent the backward flow of blood after each pumping motion, have been replaced by other artificial means. The ball valve is a plastic cage-type apparatus containing a ball which moves with the pressure of the blood flow and falls back into place as the heart muscle relaxes, restricting blood leakage back into the heart. It is placed in the proper location by the surgeon and remains as an artificial valve.

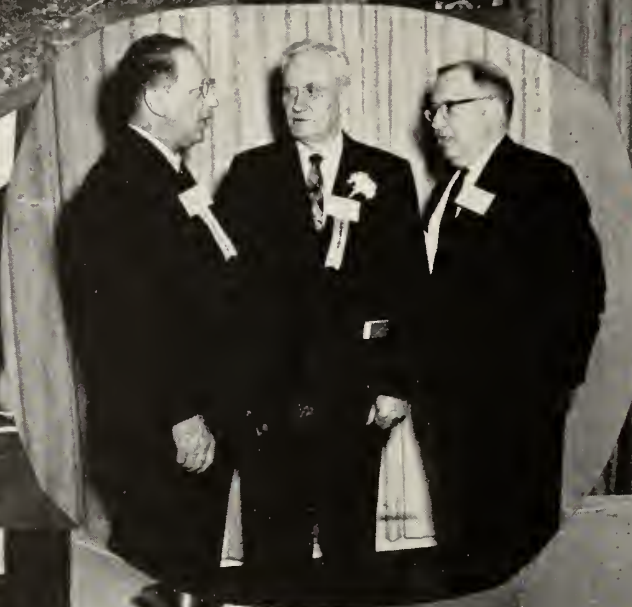
Another technique is to make a "flap" of Teflon which can accomplish the same purpose.

It is Dr. Edwards' feeling that neither the ball valve nor the Teflon is completely indestructible. The heart beats 40,000,000 times a year and he questions the ability of any material to withstand this constant motion without eventually becoming "fatigued."

If this technique of using human tissue to build a valve proves successful, the valve will become part of the body itself, be nourished by the blood supply, and, indeed, last as long as a human heart valve would normally last.

Operations involving partial replacements of heart valves with the patient's own tissue have already been performed. So far, these experiments have been encouraging. The next major step will be a complete valve replacement, which Dr. Edwards will attempt in the near future.

This dramatic step forward in the cure of heart disease, seemingly just around the corner, will add to the already imposing list of contributions made by the University of Alabama Medical Center.



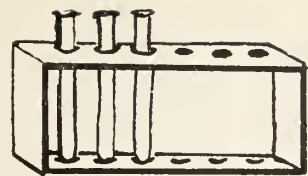












## STATE DEPARTMENT OF HEALTH

### RESEARCH GRANT APPROVED

In the last five years, the State Health Department's Bureau of Laboratories has received over \$150,000 in grants for research on problems which deal with the public's health. Basic and fundamental research has been conducted in the areas of rabies and streptococcus. A project was conducted dealing with rabies in wild animals, and recently a project on streptococci and their relationship with rheumatic fever and rheumatic heart diseases was initiated.

It is necessary to investigate and conduct research when there appears to be an unknown organism which is present during general laboratory procedure. With this in mind, the National Institutes of Health have made a grant for research to the Alabama Department of Public Health and the Hale Memorial Tuberculosis Hospital in Tuscaloosa, Alabama. The amount of the grant will be approximately \$90,000 for three years.

For the past five years, many laboratories have been isolating organisms which appear similar to that of tuberculosis and produce diseases in some cases indistinguishable from clinical *Mycobacterium tuberculosis*. Yet, the treatment of these two diseases is quite different since each responds to specific therapeutic agents. These strains have been called "unclassified *Mycobacteria*" and in many instances, when isolated, were considered to be non-pathogenic. Preliminary research by the Bureau of Laboratories and Dr. Robert K. Oliver of the Hale Memorial Hospital has shown that some of these strains produce serious diseases. The bacteriological research will attempt to define certain of these species. Field work in epidemiology will be conducted in order to ascertain the importance of these strains.

The research project will be divided into two parts. Dr. Robert K. Oliver of the Hale Memorial Tuberculosis Hospital will be responsible for investigations in those areas related to clinical medicine. The Bureau of Laboratories will be concerned with bacteriological determination of various diseases of the lungs caused by organisms which resemble *Mycobacterium tuberculosis*. The recognition of the clinical and laboratory importance of this disease problem is a credit to the medical profession and public health in the State of Alabama. We are fortunate to have competent investigators who can envision the public health implications of this facet of thoracic diseases which have offered diagnostic and treatment problems to the tuberculosis sanatoria for a number of years.

It is only through the services of a well-organized and accurately functioning laboratory that the State Department of Health can keep a constant watch over the health of the citizens of Alabama. The services of the laboratory are useful as an aid to diagnosis, as a guide to treatment, and as a means of determining carriers of pathogenic or disease producing bacteria. The services of these laboratories are many, and the benefits to every citizen of the State are vital in the prevention of disease and the promotion of good health. The Public Health Laboratory has little direct contact with the public; but it plays an important role in the sanitation of water and milk, in communicable disease control, and in chronic disease detection. All of these activities involve many other departments and services of state and local health departments.

Through the efforts of the private practitioners, the State Health Department, and the medical facilities, new knowledge about old diseases has evolved.

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

February 1963

Examinations for malaria .....	2
Examination for diphtheria bacilli and Vincent's .....	27
Agglutination tests .....	326
Typhoid cultures (blood, feces, urine and other) .....	151
Brucella cultures .....	0
Examinations for intestinal parasites .....	1,572
Darkfield examinations .....	3
Serologic tests for syphilis (blood and spinal fluid) .....	23,054
Examinations for gonococci .....	1,748
Complement fixation tests .....	120
Examinations for Negri bodies (smears and animal inoculations) .....	233
Examinations for tubercle bacilli .....	3,716
Milk and dairy products examinations .....	3,941
Water examinations .....	2,220
Miscellaneous examinations .....	5,590
Total .....	42,703

\* \* \*

## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

## CURRENT MORBIDITY STATISTICS

1963

	Feb.	March	*E. E. March
Tuberculosis .....	115	154	175
Syphilis .....	124	126	156
Gonorrhea .....	312	301	326
Chancroid .....	3	5	3
Typhoid fever .....	1	0	2
Undulant fever .....	0	0	0
Amebic dysentery .....	8	8	2
Scarlet fever and strep. throat .....	265	323	157
Diphtheria .....	3	1	3
Whooping cough .....	12	14	24
Meningitis .....	2	7	11
Tularemia .....	0	1	1
Tetanus .....	1	2	1
Poliomyelitis .....	0	1	0
Encephalitis .....	0	0	2
Smallpox .....	0	0	0
Measles .....	111	420	673
Chickenpox .....	291	463	346
Mumps .....	76	186	189
Infectious hepatitis .....	62	102	31
Typhus fever .....	0	0	0
Malaria .....	0	0	0
Cancer .....	680	733	510
Pellagra .....	1	2	0
Rheumatic fever .....	9	29	13
Rheumatic heart .....	39	42	28
Influenza .....	7,599	46,082	796
Pneumonia .....	490	1,030	276
Rabies—Human cases .....	0	0	0
Pos. animal heads .....	2	8	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH  
STATISTICS AND COMPARATIVE DATA,  
FEBRUARY, 1963

Live Births Deaths Causes of Death	Number Registered During February 1963			Rates* (Annual Basis)		
	Total	White	Non- White	1963	1962	1961
Live Births .....	5,781	3,564	2,217	22.4	24.0	24.5
Deaths .....	2,854	1,705	1,149	11.0	9.6	9.1
Fetal Deaths .....	103	49	54	17.5	15.6	20.0
Infant Deaths—						
under one month .....	118	58	60	20.4	16.5	18.2
under one year .....	233	96	137	40.3	29.0	32.0
Maternal Deaths .....	7		7	11.9	9.6	7.9
Causes of Death .....						
Tuberculosis, 001-019 .....	24	15	9	9.3	5.8	6.3
Syphilis, 020-029 .....	5	3	2	1.9	1.2	2.0
Dysentery, 045-048 .....					0.4	
Diphtheria, 055 .....						
Whooping cough, 056 .....						0.4
Meningococcal infec- tions, 057 .....	1		1	0.4		
Poliomyelitis, 080, 081 .....						
Measles, 085 .....	1		1	0.4	0.8	
Malignant neo- plasms, 140-205 .....	331	241	90	128.0	120.4	103.7
Diabetes mellitus, 260 .....	46	31	15	17.8	17.2	15.4
Pellagra, 281 .....						0.8
Vascular lesions of central nervous sys- tem, 330-334 .....	388	226	162	150.0	136.8	130.5
Rheumatic fever, 400-402 .....	2	1	1	0.8		0.4
Diseases of the heart, 410-443 .....	931	604	327	359.9	326.2	311.2
Hypertension with heart disease, 440-443 .....	142	54	88	54.9	60.8	59.9
Diseases of the ar- teries, 450-456 .....	58	37	21	22.4	23.0	23.7
Influenza, 480-483 .....	54	26	28	20.9	13.2	5.1
Pneumonia, all forms, 490-493 .....	148	74	74	57.2	28.8	39.8
Bronchitis, 500-502 .....	10	5	5	3.9	1.6	4.3
Appendicitis, 550-553 .....	2	2		0.8	1.2	0.4
Intestinal obstruction and hernia, 560, 561, 570 .....	19	11	8	7.3	5.5	5.1
Gastro-enteritis and co- litis, under 2, 571, 0, 764 .....	13	2	11	5.0	5.5	4.3
Cirrhosis of liver, 581 .....	17	12	5	6.6	7.4	4.3
Diseases of pregnancy and childbirth, 640-689 .....	7		7	11.9	9.6	7.9
Congenital malforma- tions, 750-759 .....	34	29	5	5.9	4.5	4.7
Immaturity at birth, 774-776 .....	29	12	17	5.0	5.4	5.5
Accidents, total, 800-962 .....	155	86	69	59.9	53.0	63.1
Motor vehicle acci- dents, 810-835, 960 .....	53	41	12	20.5	24.6	23.3
All other defined causes .....	389	230	159	150.4	140.7	134.1
Ill-defined and un- known causes, 780- 793, 795 .....	190	58	132	73.5	43.3	38.6

\*Rates: Birth and death—per 1,000 population

Infant deaths—per 1,000 live births

Fetal deaths—per 1,000 deliveries

Maternal deaths—per 10,000 deliveries

Deaths from specified causes—per 100,000 population





## BOOK REVIEWS

**Tomorrow's Miracle.** By Frank G. Slaughter, M. D., Cloth. Price, \$3.95. Pp. 306. Doubleday & Company, Inc., Garden City, N. Y. 1962.

This is Dr. Slaughter's thirty-fourth novel. It deals with an evangelist who becomes a medical missionary, and Dr. Slaughter gives the story a little different twist from those he usually employs. In the book, Dr. Slaughter is using his knowledge of the Bible—but not in a so-called historical setting; and this he combines with his knowledge of the field of medicine.

Perhaps the characterizations, as drawn by the author, are of greatest interest in this novel. Dr. Slaughter's ability to characterize in such a manner as to make the reader like or dislike certain people shows to its fullest advantage in this novel. The story is fast paced and very interesting. It is recommended for light pastime.

W. A. Dozier, Jr.

**The Art of Thinking.** By Dagobert D. Runes. Cloth. Price, \$2.75. Pp. 90. Philosophical Library, Inc., 15 East 40th Street, New York 16, N. Y., 1961.

This is a very interesting little treatise. Mr. Runes' thesis can be summarized in his stating that all men think alike, that emotions and prejudices color our thinking, and that the art of thinking correctly may be engaged in only if our thoughts are formed with love instead of hatred.

Few people, if any, would find fault with this thesis. In arriving at his conclusion, however, the author uses some rather farfetched examples and falls into the trap of dogmatism, which his writing would make one believe he abhors. Even so, it is interesting reading.

W. A. Dozier, Jr.

**Hospitals, Doctors, and Dollars.** By Robert M. Cunningham, Jr. Cloth. Price \$6.95. Pp. 268. F. W. Dodge Corporation, 119 West 40th Street, New York 18, New York, 1961.

This is a book that should be read by every physician. The author is the editor of *The Modern Hospital* and the dust cover on the book summarizes it as "reports and opinions on our Good Samaritans who are having some bad times." The compilation of articles which comprise the book have appeared before, but this does not detract from their interest nor the incisive analysis which the author gives to those problems he discusses.

A number of topics are covered, ranging from such things as public relations of medical organizations to fee-splitting to socialized medicine. The titles of the seven chapters will give an idea of the tack the author takes: Washing Professional Linen in Public; Political Means and Professional Ends; Hospital, Doctors, and Dollars; Practice in Plastic Towers; Hospital Labor and Laborers; Some of My Best Friends Are Doctors; and Moments in a Sober Business.

As an illustration of how Mr. Cunningham applies his knowledge and his writing skill is to be found in one of the articles entitled "Lost Ground." "The Public attitude toward hospitals, we have always insisted, is shaped at the bedside, and not in the administrator's office, or at the cashier's desk, or by little pamphlets telling how many people work in the kitchen and how much it costs to buy an x-ray machine." This incisive statement, for example, points out something we are often apt to forget or at least overlook.

Everyone who reads the book will not agree with every statement the author makes nor some of the connotations therein. (This reviewer did not.) But it is important to know that opinions are being expressed and expressed extremely well. Even though you may not agree with everything that is said, there is nothing in the book that is not reasonable, well presented, and in some instances humorously written.

This is highly recommended reading for members of the medical profession and, in fact, the whole medical care team.

W. A. Dozier, Jr.

**The Surgeon.** By W. C. Heinz, Cloth. Price, \$3.95. Pp. 245. Doubleday & Company, Inc., Garden City, N. Y. 1963.

This novel is a real pleasure. Even if it were not well-written and interesting, which it is, it would still be a pleasure to find a book wherein the physician who is the leading character is not necessarily an ogre motivated by all base objectives.

The dust cover calls this "a novel about a dedicated man and his dramatic life." Actually, a period of time from 6:45 A. M. to 2:55 P. M. of one day in the life of a surgeon completes the span of the book. It is well written, interesting, and empathic without being maudlin. Try it some time when you have a spare minute.

W. A. Dozier, Jr.

# *The Woman's Auxiliary*

Dear Doctors:

This is my first communication to you as state Auxiliary president. The letter format is a psychological prop for myself since I am somewhat awestruck at the thought of being responsible for a page in your Journal each month. A more learned group of readers would be hard to find in any area. But since letter writing is easy, we will carry on a correspondence hoping to air the problems, projects, and mores of the Auxiliary and establish a closer understanding with the medical society.

Let us hope for a better fate than that of Lot's wife as we look back over the year which I have just spent in the rose-colored aura of being president-elect. It has truly been a very special position in a very special year, that in which Alabama's Louise Thuss has been National Auxiliary president.

Beginning with the National Convention in Chicago where we had the halls of the Pick-Congress Hotel ringing with peals of laughter as we wrapped Louise's gorgeous presents, continuing on through being hostess at her reception, attending the fabulous and informative President's Conference in Chicago in October, attending the various district and county meetings, I am left with the distinct feeling that state president-elect is one of the best titles that I have had, though I was low woman on the totem pole one night when Dr. John Kimmey entertained, at the Officer's Club at Camp Rucker, the National Auxiliary president, the state president (his wife), and the state president-elect.

Most wives of doctors in private practice are, of necessity, trained to go ahead in many projects; for instance, dinner, without his presence. This state of mind can persist in community life also, although his physical absence does not betoken any lack of support for his wife's interests.

However, we do not carry over into Auxiliary affairs this habit of going ahead on our own. In no other organization have I ever



felt the decided effort to do the requested bidding, to have projects approved, to ask for advice (note the five member Advisory Council of doctors which lifts the burden of decision from our shoulders in many instances) which exists between our two groups.

One of my tasks this year will be to learn more about the organization of the State Medical Association so that I can know where there are like committees that could cooperate.

After having worked over six months filling each chairmanship in the Auxiliary, this experience along with around ten years, membership leads me to feel that I know our organization fairly well. But the organization of the State Medical Association is an entity which I intend to explore.

And so we bring this letter to a close. It is my plan to have a guest writer occasionally; so you may be pleasantly surprised at any time. Now with the hope that many of us may have become better acquainted during the convention in Mobile, with a welling-up of thankfulness in our hearts for the dedication of the medical profession, and with a big hug to each of you—from your own wife, of course—I am

Sincerely yours,

*Marlys Sutton*

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## The Problem of Barbiturate Poisoning

Grover C. Murchison, Jr.

Montgomery, Alabama

In spite of all that has been written and said about this not uncommon occurrence in present day medical practice, there is still a great deal of confusion which occurs when the physician is suddenly faced with the decision of whether to treat or not to treat in cases of barbiturate poisoning, or suspected barbiturate poisoning.

From one point of view, patients with barbiturate poisoning fall into four groups, two of which recover and two of which do not. The first is a group of patients who recover without any treatment. All they require is good general nursing care. The second is a group of patients who die regardless of how intensive, how extensive, and how expert the treatment is. They have simply taken so

large a dose that no antidote or method of treatment can save them. The third group embraces those patients who recover only because of expert management; without the most effective measures most effectively applied they would succumb. The fourth group, and this is not an uncommon group for a patient to enter, embraces those patients who die because of the treatment.

In my limited experience I have seen a fair number of cases of barbiturate poisoning, and poisoning with other types of sedative drugs, both in my hospital work and also in private practice. This limited experience has impressed me with the fact that there is a great need for better understanding of the basic problems involved in a course of poisoning by this group of drugs as well as in the various aspects of its treatment. Not the least bit difficult is the decision as to whether barbiturate poisoning or intoxication actually exists rather than a simple overdosage of the drug. This decision must be made frequently

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Presented to the staff meeting of St. Margaret's Hospital.

Dr. Murchison is a graduate of Cornell University Medical College. He is engaged in the general practice of medicine in Montgomery, Alabama.



in the face of a very anxious and demanding family.

I recall one case, the wife of a physician, who was supposed to have taken 23 capsules of Nembutal,<sup>®</sup> one and one-half grains each, at about 1:00 P.M. She was found in a coma about an hour later. This patient was seen by a staff member of a hospital where I was interning, about seven hours after the dose, when the physician involved had called on a staff member to ask him his advice concerning the treatment and ask for a source of supply of Picrotoxin.<sup>®</sup> The only information that the husband had about his wife's status was that she was in a coma, her blood pressure was 110 systolic, respirations were 26, and her heart rate was 90. He had been looking after her from the beginning but did not know the state of her reflexes at the present time, nor did he know how matters stood at the beginning, information which could be used as a basis for a decision whether the course in the past seven hours had been stationary or was progressing downward or upward. Such information would have been of almost critical value in deciding on the treatment. There was a period of seven hours of management which had passed by without yielding the slightest bit of useful information.

Another case concerned a patient who took 21 grains of aprobarbital and nine grains of secobarbital. She went into a deep coma, but twenty hours after the dose was alert and carrying on a conversation. The reason for the consultation with the hospital staff was that the patient's face looked somewhat flushed; all physical findings were normal. The patient was awake, but the physician involved was worried that the treatment might not have been adequate. He wondered if there were additional measures which should have been taken to insure recovery. This is not good medicine in any man's book. The simple but astounding lack of knowledge in such a case is unforgiveable, at least to my way of thinking.

A third case involved a three year old child who had taken 19 grains of phenobarbital twenty-four hours previously. Although her

stomach was washed within an hour after the dose, coma developed with respiratory depression. She was given a total dose of nine milligrams of Picrotoxin<sup>®</sup> by intravenous injection, two doses within a period of 45 minutes; this dosage being equivalent to about forty-five milligrams in an adult. Naturally it caused a prompt severe convulsive seizure. The local physician had not bargained for convulsions, hence the child was brought to the hospital. This again represents the use of a drug about which the basic adequate knowledge is unknown.

These are a few fairly good examples of the types of problems that need to be explored and crystalized in relation to the treatment of barbiturate poisoning. Before any treatment of any kind is applied in a case of barbiturate poisoning satisfactory orientation is desirable regarding these questions: first, has poisoning occurred or is it likely to occur; second, how deep is the poisoning; and third, has the material been completely absorbed.

It is very helpful to know the amount of the drug that the patient has taken, but that information is frequently quite inaccurate although it is well to have in mind that adults are practically certain to recover, without specific treatment, from overdoses of the order of one to two grams of any of the commonly used barbiturates. This represents ten to twenty-one and one-half grain capsules such as pentobarbital or secobarbital.

One of the greatest helps to me in treating cases such as the above is that the first thing I do is to list on a sheet of paper the common guides to the depth of barbiturate poisoning: state of consciousness, depth and rate of respiration, blood pressure, heart rate, skin temperature, (warm, cold, wet, or dry), cyanosis, pulmonary rales, response to painful stimuli, width of the pupils, and reflexes (pupillary reaction, knee jerks and swallowing reflexes and the like). One could then indicate, or at least I do, in a column, the presence or absence of these signs by a plus or a minus. Entries are then made on this form as time passes at intervals of fifteen minutes or longer, depending on how severe

the poisoning seems to be. This provides a convenient record easy to examine and interpret as a guide to the therapy. Very often one decides to do nothing in a case when first seen because the barbiturate poisoning seems so mild, but one may reverse this decision after observation for a few hours because the knee jerks which were present may have now disappeared or the pupil which reacted to light has now ceased to do so, or the pupil which was first small has now become widely dilated, or the blood pressure which was at first 120/80 has now declined to 80/70. It helps me to make a chart of this kind with these various specific points clearly listed and unless I do so, the chance is high that the record will be incomplete and some details essential for my decision regarding the treatment two or three hours later will be lacking. It should be emphasized very strongly, the fact that the type of treatment is determined, not by the state of the patient when first seen, but on the course which the poisoning has taken, and that course is usually better revealed by a record such as has been outlined above.

When the patient is first seen we are always faced with the question, has the drug been completely absorbed? That's the next question, I believe, which should be decided. If one can be fairly certain of the answer to this question the problem is much clearer. It is one thing to assume that there is a great deal of the drug in the gastro-intestinal tract and that deepening effects can be expected as a result of continued absorption period, but it is quite another matter if one can be fairly certain that absorption is already substantially complete and that the intensity of poisoning observed at the time is as great as the patient is likely to show. There is also the question of washing the stomach. One paper on the treatment of barbiturate poisoning, published in the JAMA several years ago, recommended the evacuation of the stomach as the first step advised in the treatment of any patient admitted to the hospital in coma. I cannot see the possible advantage there could be in washing the stomach in a case in which there is information that the poison

was swallowed at least twenty hours previously. All one does in a case of that kind by washing the stomach is to expose the patient to the added danger of aspiration pneumonia, laryngospasm or apnea. It is true that one does not always know how long a period has elapsed since the drug was taken, but we should make use of the information in those cases in which one does know the approximate interval and avoid useless and dangerous steps.

In connection with absorption it is well to have in mind that the barbiturates are fairly rapidly absorbed. A massive dose of a barbiturate given on an empty stomach can kill a cat in as short a period as seven minutes. Of course, if the barbiturate is taken after a meal the absorption is much slower. There is also the fact that a massive dose of barbiturate will cause severe irritation of the stomach with reflex closure of the pylorus and absorption is delayed. Taking all these factors into consideration, however, it is probably proper to say that if several hours (four to six) have elapsed since the drug was taken one may safely assume that absorption is substantially complete and that little is to be gained by washing the stomach. By the same token it is safe to assume that if six to eight hours have elapsed since the poison was swallowed progressive deepening of the narcosis as the result of the continued absorption is also unlikely. Such a decision, if based upon reasonably accurate facts, better defines the problem of therapy for the case in question. For example, if one encounters a patient in coma as a result of a barbiturate but the condition is satisfactory in the sense that the pupils are small and round and react to light, the skin is warm, the respiration is fairly satisfactory, and the blood pressure is 110/70 and if this is the state at the end of six or eight hours or longer following the dose, and if there is no reason for suspecting interference with absorption, one would do well to withhold specific antidotes and apply only general nursing care, since such a patient is almost certain to recover. I recall one such case in a New York hospital in which the drug had been taken about twenty hours previously.



Although the general state was as described above, a physician tried to restore consciousness by means of Picrotoxin® and Metrazol®. This apparently comatose patient suddenly began to kick his legs up into the air quite violently. This patient began to have severe convulsive fits. This is precisely the type of patient referred to in the first group, namely those who do very well when they are left alone and whose lives are endangered by the use of analeptic drugs.

There is another point requiring orientation before therapy. No single system can be depended upon to reveal the true intensity of the poisoning of the barbiturates. There are, of course, those patients in whom all systems seem profoundly depressed. There are others, however, in whom one system may show fairly deep poisoning while another fairly light. For example there are those in whom all the common reflexes that can be tested are found to be absent; absent corneal and pupillary reflexes, absent knee jerks, absent swallowing reflex, etc., but the respiration is fairly normal, and the blood pressure is satisfactory. There are others in whom several reflexes are found intact, but the respiration is so profoundly depressed that it seems unlikely they will go on very much longer without the secondary effect of anoxia. There are still others in whom the respiration and reflexes reveal generally light narcosis, but in whom the blood pressure is extremely low, to a level of perhaps 80/70. Clearly the drug depresses the respiratory center more in one case and the vasomotor center more in another and so on. A thorough examination at the beginning will clearly reveal what system it is that requires specific attention and treatment.

The secondary effects of anoxia must not be confused with primary poisoning. I believe that this simple fact, plus the family who insists on my "doing something," cause me more difficulty in acutely and chronically poisoned patients than any other which I might come up against. Many patients with barbiturate poisoning when first found have been lying in a state of narcosis for several

hours and there is a picture of advanced poisoning involving all the systems which may be deceptive because the deterioration is chiefly the secondary effect of anoxia rather than the primary effect of the drug itself. As they lie there the tongue falls back against the palate or pharynx, mucous collects in the bronchi, and together these factors so impair the respiratory exchange that a degree of poisoning is in evidence which seems to place the patient on the brink of disaster. Some of these patients are relatively lightly narcotized and the whole picture is rapidly reversed by measures which improve the respiratory exchange. Pull the tongue forward, put in an airway, administer oxygen by artificial respiration, by nasal catheter, by closed anesthesia machine or even tank type respirator if necessary, and remove the mucous from the upper part of the respiratory tree. After this is done then the patient begins to improve and with such speed so as to leave no doubt that the recovery bears no relationship to the elimination of the drug. It is well to bear the factor of anoxia in mind because such patients being only lightly narcotized are very susceptible to the analeptics. Because of their profound depression one sometimes judges that large doses of pentamethylenetrazol (Metrazol®) or Picrotoxin® are necessary. One is then very surprised to find that a small dose produces a violent convulsion. We should not be caught napping about this when we bear in mind the fact that the appearance of the patient taking the barbiturate is often only in part the result of the direct depression of the drug and may in large part be due to the secondary depression by anoxia.

In practically all current accounts, with one recent exception from the University of Washington School of Medicine in Seattle, which I will mention below, of treatment of barbiturate poisoning, one finds the recommendation to use one or another of the analeptic drugs, Metrazol®, nikethamide, Picrotoxin®, or even strychnine. This is, in all probability, a mistake, for a large portion of patients in coma as a result of a barbiturate



recover without any analeptic. Why not use them just the same and give the patient the added chance of recovery even if he would have recovered without it? The reason is that the analeptic is itself a serious source of danger when used in effective amounts. As a matter of fact effective amounts of analeptic drugs are determined by the dangerous dosage in use. It may be that many patients are deprived of their chances of recovery by the too liberal use of these drugs. Judgment as to which patient needs them and which patient is likely to do well without them is therefore decisive.

Let us consider the patient with barbiturate poisoning in coma who seems fairly well from general appearance; the color is good, the skin is warm, the blood pressure is satisfactory, pupillary reflexes are present, but the respiration is so slow and shallow that one has to strain to see the patient breathe. Here the indication for immediate treatment is clear, namely the use of a respiratory stimulant. I think that caffeine is the material of choice. It may be given in a dose of five tenths grams of caffeine sodium benzoate intramuscularly or intravenously. This dose may be repeated two or three times at intervals of thirty minutes or more quickly in case of the intravenous route in order to produce and maintain an increase in depth and speed of respiration. This may be accomplished at times by inhalation of an oxygen and carbon dioxide mixture. Caffeine has the advantage over some of the other analeptics for this specific purpose because it rarely produces a secondary depression of respiration and there is little or no danger of overdosage producing a convulsive seizure.

In another case the picture of poisoning may be similar to the above, but while breathing seems satisfactory the blood pressure is down nearly to a shock level of 80/70. Here, other types of stimulants are clearly indicated, namely, Neosynephrine®, Paradrone®, or other such drug of your choice, even including the very powerful Levophed®. These drugs should never be used unless one is completely conversant with the side effects of

their administration, both generally and locally, as in the case of the danger of slough of healthy tissue in the face of Levophed® being given in the tissues instead of intravenously. These drugs may be given in doses of 10 or 20 milligrams by intramuscular injection and repeated as necessary at intervals of 30 minutes or longer. They frequently boost the blood pressure to more satisfactory levels and speed up the circulation. This may be all that is necessary in a case of this kind. By such measures a patient who is likely to get into serious difficulties by the secondary effects of vasomotor depression is lifted into a state in which recovery is assured. The point about such cases is, that they are only lightly narcotized, only one system such as the vasomotor or the respiratory center being unduly depressed, endangering the patient's life by the secondary effects of its diminished activity. It is only this specific system which should receive treatment.

Again, it should be stated, that convulsant analeptics such as Metrazol® or Picrotoxin® should not be used in such cases, because the dosage of the barbiturate is apparently relatively small and before a considerable amount of vasomotor or respiratory stimulation is obtained with these agents, one often finds oneself tangled up in the problem of managing serious convulsive seizures.

The fact that most descriptions of the treatment of barbiturate poisoning give one the impression that analeptic drugs should be used in every case of coma has already been referred to in this presentation. One of the most important aspects of treatment is the decision as to the kind of cases in which they should be **withheld**. In laboratory experiments, the evidence is fairly clear that animals may survive two to three times an otherwise fatal dose of a barbiturate when treated with Picrotoxin®. Whether Picrotoxin® or Metrazol® saves lives in humans, has not been very easy to determine. Several years ago Dr. Harry Gold prepared a report for the Council on Pharmacy and Chemistry of the American Medical Association. He compared reports of cases in which the pa-

tients were treated with Picrotoxin® with those of controls treated with no analeptic drug. Authors had concluded, for example, that Picrotoxin® was responsible for the survival of their patients after five and six gram doses of phenobarbital, but the literature revealed cases surviving from similar doses of phenobarbital without Picrotoxin®. In the experience of the first seven years with Picrotoxin® it was found that in 26 cases of barbiturate poisoning, treated with that drug, there was a mortality of 15.4 per cent, but again, the literature showed control groups with mortality of from 7.6 per cent to 25 per cent. It is not easy, therefore, to make out an entirely satisfactory case for the use of the analeptics, although the results of animal experiments might, for the time being, be taken as sufficient justification for their use.

A former classmate of mine at Cornell, and his associates, out in Seattle, Washington, treated 243 cases of barbiturate poisoning of whom 160 were comatose on admission to their hospital, by combating respiratory distress, coma, and circulatory collapse, without the use of any analeptic drug at all and they report a mortality rate of only 1.6 per cent for all patients. This is by far the best series reported to date insofar as mortality is concerned. 2.5 per cent of the comatose patients died. Their report further states that of the four deaths all had serious underlying medical problems. Only 25 of their patients required vasopressor agents (Ephedrine® or Vasoxal®, or, in more severe cases, Levophed® was used). In this series 18 patients were put in mechanical respirators—others received artificial respiration for a short while or air by way of endotracheal tubes and closed circuit anesthesia machine. All deeply comatose patients had intravenous fluids started on admission. They made adequate use of plasma expanders, vasopressor agents and the like if the need arose. In one case an artificial kidney was used to remove 890 milligrams of barbiturates from the blood stream, and this patient recovered.

In their hands, beta-beta-methylethylglutarimide (Megimide®) was practically use-

less except that its analeptic qualities were of shorter duration than those seen with Picrotoxin®.

They report that, rarely, electrical stimulation to the head and periphery may be of value in bringing back superficial reflexes in some cases.

Recently there has been introduced a central nervous system respiratory stimulant, Emivan®, a brand of Ethamivan (vanillic Diethylamide) which has been used in cases of sedative poisoning. This drug, with which I have had no experience, can cause convulsions and must be used with that possibility in mind. Just what place this preparation will have as an adjunct in treating respiratory depression due to barbiturate intoxication only time and more experience can tell.

The case being what it is, however, makes it incumbent upon us as physicians, to be certain that we do no harm with Picrotoxin® or the other convulsant analeptics, and in order to avoid doing harm, we should first make fairly certain that the patient is one who stands a fairly good chance of succumbing without the specific aid of an analeptic. Then and only then should we accept the responsibility of using these convulsive type preparations.

Here are a few general rules that may be of some help in making this decision. (1) Picrotoxin® or other convulsant analeptics should be withheld in all cases in which it is possible to elicit such reflexes as holding the breath or increased breathing by supraorbital pressure, pupillary reactions, and knee jerks. These patients recover without analeptic drugs. (2) If, as you observe the patient's course, these reflexes begin to vanish Picrotoxin® may be started. (3) Picrotoxin® should be given to all patients in whom no reflexes can be elicited. (4) The patient who is in coma more than 40 hours after one of the rapidly acting barbiturates, such as Pentobarbital or Secobarbital, has almost certainly taken more than an ordinary lethal dose. Such a patient should probably always re-



ceive Picrotoxin® or the analeptic of your choice.

It might be well to summarize the chief measures employed in treatment of barbiturate poisoning. Obviously, in any given case one uses only those which are indicated:

- (1) Establish free respiratory exchange by pulling forward the tongue and the lower jaw, by inserting an airway, and by suction of the mucous from the respiratory passages.
- (2) Administer oxygen if there is any cyanosis.
- (3) Stimulate the respiration by caffeine or the drug of your choice if there is profound respiratory depression. Treat respiratory failure with artificial respiration, intubation, or tank type respirator, closed anesthesia machine or what have you.
- (4) Attempt to raise the blood pressure by means of Neosynephrine®, Phenylephrine HCl®, Paradrene®, or Levophed® or the agent of your choice if the blood pressure has reached dangerously low levels without evidence of secondary shock.
- (5) Treat secondary shock by the usual measures; infusions of 5 per cent glucose and distilled water or saline, or plasma, or whole blood if necessary.
- (6) Maintain water balance in the ensuing days by intravenous administration of glucose and saline solutions and control this administration by laboratory tests.
- (7) Use Picrotoxin® as an analeptic if the conditions for its use exist.
- (8) Treat prophylactically with penicillin intramuscularly against bronchopneumonia. This is an extremely important point because it is not infrequent that the patient recovers from drug poisoning and then succumbs to pneumonia.
- (9) There is also a vital need for observing urinary bladder function. When these patients are in coma, they may fail to

void and unless we are on the lookout for it we may be surprised by a large mass in the lower abdomen which may look like a six months pregnancy in a female, associated with urinary dribbling. Such over distention of the bladder is often dangerous and certainly in many cases leads to infection.

If one does decide that the patient should have Picrotoxin®, the 3/10 per cent solution, three milligrams per cc, might be used. Give about ten milligrams of the drug intravenously every 20 to 30 minutes. If the veins are hard to find, one may use the same dose intramuscularly, because the material is well and rapidly absorbed from the muscles. This dosage plan should be continued until there are signs of excitation in the form of flicking of the fingers, grimaces, or abrupt movements of the limbs. Sometimes the first symptom of effective stimulation is obtained by the reaction of the patients to a painful stimulant such as supraorbital pressure. Before the dose of Picrotoxin® the patient may have shown no reaction to the stimulants and no knee jerks. After the dose, the same stimulus (following a delay of several seconds) gives rise to slow movement of the limbs or body, and an active knee jerk appears. It is now necessary to maintain these states. This may be done by intramuscular injection of similar doses at longer intervals, the intervals being determined by the length of time it takes for the signs of excitation to vanish. The reason for the intramuscular dose is that it avoids the high concentration immediately after the injection which sometimes precipitates a convulsion.

The fatal dose of Picrotoxin® in the human being is unknown. It is rapidly absorbed, as stated above, from all channels of administration. Following the intravenous administration in laboratory animals, the drug rapidly leaves the circulation and, after twenty minutes, only traces can be detected in the blood. Its distribution in the body is unknown. Picrotoxin® is probably destroyed quite rapidly and this accounts for the clinical use of small amounts at regular intervals. If



large doses are given, a portion can be recovered in the urine.

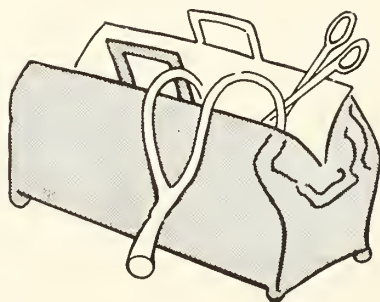
Metrazol® has been mentioned previously. It and strychnine are perhaps the next most valuable analeptic drugs in treating barbiturate poisoning. Strychnine in dose of two to ten milligrams given intramuscularly at intervals of about two hours has been reported to be very effective. When the patient is in extremis, it may be given intravenously. Pentamethylentetrazol, in doses of 100 milligrams or 300 milligrams parenterally, is a well known and widely used drug for central nervous system stimulation. It is rapidly absorbed, rapidly detoxified, and probably safer than the other two but, so far, evidence indicates that it is less effective than Picrotoxin® or strychnine in barbiturate poisoning.

In 1952 a 30 per cent solution of di-sodium succinate hexahydrate, put out by Brewer and Company as Soduxin® was used for a while, particularly in the field of anesthesia, in doses of three to five cc intravenously, injected one cc per second to counteract excessive barbiturate dosage. I have had no experience at all with this drug and have been unsuccessful in finding a great deal written to date on this succinate preparation. One group of investigators did state that the evidence at hand indicates that these drugs may cause a depression of the normal metabolic

processes, and they further state that what ever benefit there is in the preparation stems from the sodium ion and not from the succinate and note that they have seen equal benefit of its nature with the use of sodium bicarbonate.

Suffice it to say, that once the decision for use of an analeptic drug is made, the doctor involved should use the one with which he is the most familiar. He should be completely familiar with that one drug before he prescribes it in any quantity or in any manner.

It might be well, in closing, to say a word about the management of the convulsion which one may be faced with controlling during the course of treatment with the analeptics. They can be controlled by the use of open drop ether or a small dose (say ten milligrams) of one of the rapid acting barbiturates such as thiopental sod. given intravenously. In severe convulsions, the latter is the treatment of choice and with a small intravenous dose of thiopental sod. no further harm is done to the patient. There is no conclusive material as to the danger of the convulsion itself if the patient is restrained to prevent traumatic injury, but in view of no evidence that damage to the cardiovascular and central nervous system do not result from prolonged and violent convulsions due to poisoning by the analeptic drugs it is probably best to control these reactions as rapidly and effectively as possible



# Cysts Of The Liver

Hugh Gray, M. D.

Anniston, Alabama

Benign cysts of the liver are uncommon but they may be of serious surgical importance. Surgical progress in the last decade initiated by Pack, Brunschwig, and others has increased the opportunities for cure of this condition.

The first documented case of a liver cyst was reported in 1856. Geist reported 193 cases of nonparasitic cysts of the liver recorded in the literature up to 1953 and added two personal cases. Over 200 cases have now been reported.

Moschowitz first discussed the etiology of liver cysts in 1906. The exact cause is unknown. Sonntag, Jones, Davis, and others have discussed this subject.

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Dr. Gray is a graduate of the University of Alabama and received his medical degree from the University of Michigan. He is a past president of the Medical Association of the State of Alabama.

The following classification is presented:

1. Congenital
    - a. Unilocular, solitary.
    - b. Polycystic disease of the liver.
    - c. Congenital cystic dilatation of the common duct.
  2. Parasitic.
  3. Traumatic.
  4. Inflammatory.
- By microscopic examination, solitary cysts of congenital origin may be further divided:
1. Degenerated cysts containing blood.
  2. Dermoids.
  3. Lymphatic.
  4. Endothelial.
  5. Retention cysts of bile ducts.
  6. Proliferative.

Polycystic disease of the liver usually occurs in infants and children and in association

with cysts of the kidneys, pancreas, and other organs.

Congenital cystic dilatation of the bile duct is uncommon; limited in size; often associated with jaundice, and said to occur more frequently in females.

Hydatid cysts due to the *Echinococcus* are rare in this country. Caused by eating food contaminated with the eggs of the tapeworm.

Unilocular nonparasitic cysts of the liver are generally conceded to be congenital anomalies arising from the ductal elements, accessory bile ducts, lymphatic or endothelial areas. Some have a histologic pattern suggestive of cystadenomas and regarded as true proliferative cysts.

These tumors occur more often in females, a ratio of three or four to one being reported. Have great variability in size. Most are small, usually found at autopsy. The largest reported by Ochsner contained four gallons of fluid. The walls are usually dense. Epithelial lining and contents variable.

Growth is slow. Symptoms are variable. When present, they may consist of vague pain in the right upper quadrant with changes in position and function of the stomach and small bowel. Intracystic hemorrhage can occur. Torsion of the pedicle and leaking into the abdominal cavity have been reported.

Physical examination reveals a variable size mass in the right upper quadrant, or it may fill the whole upper abdomen. It may be tense, cystic and relatively nontender.

The liver and other laboratory tests are usually normal. X-ray findings may be helpful but the definitive diagnosis is made only at surgery.

The treatment is surgical and the following measures are to be considered—

1. Excision of the cyst.
2. Marsupialization.
3. Aspiration.
4. Lobectomy.

Small tumors can be excised locally.

In certain complicated situations, marsupialization may be necessary.

Aspiration has been reported as having the highest mortality.

Since it has been observed that large portions of the liver can be sacrificed and that it has great powers of regeneration, and since lobectomy is a relatively safe procedure, this operation is used in indicated situations.

**Case Report:** A 69 year old negro man was admitted to Anniston Memorial Hospital on Oct. 19, 1961 complaining with sour stomach, indigestion, an epigastric mass, and loss of 33 pounds in weight during the previous three months.

The mass had progressively enlarged. There had been no intolerance to specific foods, or nausea, or vomiting, or other symptoms.

Physical examination revealed an elderly man, six feet tall, weighing 206 pounds, who did not appear particularly ill. The blood pressure was 150 over 100. Moderate arterial thickening was present.

The abdomen presented a large, firm, rounded protuberance in the right upper quadrant extending from the costal margin almost to the umbilicus. It was nontender, movable to some extent, descended on inspiration, seemed attached to the liver, and located in the anterior abdomen.

Routine laboratory findings were normal.

A chest X-ray and gastrointestinal series made by order of his family physician before admission to the hospital revealed no heart or pulmonary pathology. The gastrointestinal series showed, "the shadow of a large epigastric mass presenting anteriorly, the stomach and duodenum misplaced; etiology undetermined. Could be hepatoma, pancreatic cyst, or reticulum cell sarcoma. Surgical exploration advised."

On Oct. 23, 1961 laparotomy, through an upper, right trans-rectus incision was carried out. A mass the size of a baby's head was found in the left lobe of the liver, bound down



internally and inferiorly by many dense adhesions.

Over 1,000 c.c.'s of chocolate colored fluid and muddy material was evacuated with trocar and suction. The adhesions were transected and ligated, the left liver lobe mobilized and removed.

One thousand c.c.'s of blood was administered during the operative procedure and the patient was carried to the recovery room in satisfactory condition.

The pathological report was "Unilocular cyst with thick fibrous walls. No lining cells. The surrounding left lobe of the liver presented normal cells."

The patient was discharged from the hospital on Nov. 8, 1961. He was ambulatory and in good condition. He has remained in good health until the present time.

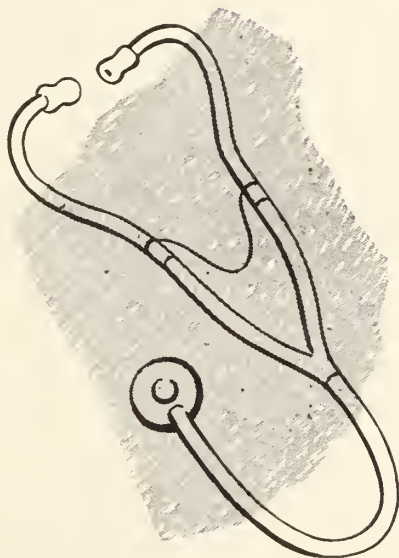
**SUMMARY:** A classification of cysts of the liver and biliary tract has been given.

Symptoms and physical findings have been enumerated. Treatment has been discussed.

Finally, a case of solitary cyst of the left hepatic lobe is reported in which left lobectomy was performed and a favorable outcome obtained.

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# Rendu-Osler-Weber Syndrome

## (Hereditary Familial Telangiectasia)

### Surgical Implications

Church E. Murdock, Jr., M. D., F.A.C.S.

Mobile, Alabama

Recent surgical experiences with four pulmonary arteriovenous aneurysms initiated this review.

These aneurysms were stigmata of Rendu-Osler-Weber's disease in each instance. Allusions to other visceral manifestations of this syndrome are made with emphasis on diagnosis and management of the pulmonary lesion. Short case histories and available family history are included.

Hereditary Familial Telangiectasia is characterized by multiple telangiectases of skin, mucous membranes and viscera. A familial and hereditary disease exhibiting atavism, transmission as a simple autosomal dominant is by either sex. Stigmata may be evident at birth or appear as late as the third or fourth decade.<sup>3</sup>

Grossly, lesions are small and red appearing as blebs or streaks and composed of dilated vascular channels, microscopically devoid of elastic and muscular elements.<sup>3,4</sup> Pulmonary lesions may extend to form relatively large arteriovenous aneurysms.<sup>1</sup>

Lesions may be widespread or localized. They have been identified throughout the gastro-intestinal tract, lungs, kidney, and rarely the brain; and even one case is reported in bone.<sup>3</sup>

It should be noted that the presence or absence of certain components of the syndrome does not establish the diagnosis since unrelated telangiectasia of any area may occur. Thus, a detailed and far reaching family history (atavism) will be required to confirm or refute the diagnosis.<sup>3,4,7</sup>

Clinically the most common lesions are of skin and mucous membranes, lung and intestine in order of frequency. The exact frequency of gastrointestinal lesions is unknown. However, melena is decidedly uncommon in victims. The significance of renal telangiectasia is not established. Surgical significance is greatest in lesions of lung, nasal mucosa and intestine.

Lesions of the nasal mucosa surpass others in day to day clinical importance for here arises the common and often only sign of this disorder. Minor trauma or vasomotor reaction may initiate hemorrhage from telangiectases so that recurrent, frequent, and severe epistaxis leads the victim to seek medical aid. Inasmuch as eventual control of

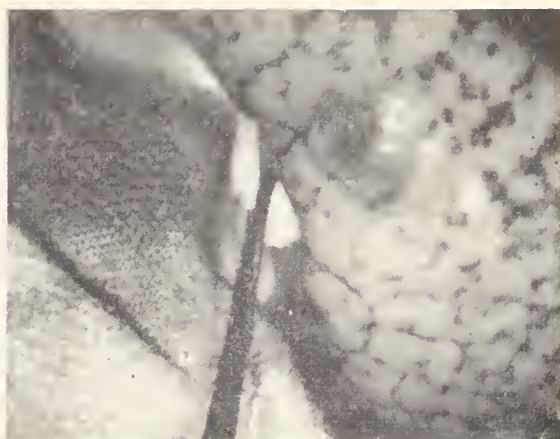
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Dr. Murdock is a graduate of the University of Arkansas School of Medicine. He is engaged in the practice of cardiovascular surgery in Mobile, Alabama.

FIGURE 1



A. Subpleural Location of Lesion



B. Lesion Slightly Imbedded in Parenchyma

these superficial lesions is assured, the important point to remember is that such epistaxis may indicate Rendu-Osler-Weber's disease and so prompt a search for more dangerous lesions.

Gastro-intestinal lesions may give rise to melena which, while usually self limited, is to recur again and again producing chronic anemia and disability. Eventually, as many as 20 per cent of the patients exhibiting melena, will succumb to this complication. Melena in these patients may be entirely unrelated to the telangiectasis.

The diagnosis must be strongly suspected in the presence of the syndrome but may be confirmed only by gastroscopy, proctoscopy or at coeliotomy. A helpful maneuver in identifying the lesions at surgery is described by Vetto.<sup>7</sup> A glass slide is used to compress the bowel wall to bring the lesions into relief as whitish, blue spots.

Non-operative therapy is advised, as diffuse involvement and inability to define the offending area preclude definitive surgery in most instances.<sup>4,7</sup> Rarely, it has been possible to resect the majority of the lesions; though the required resection may be massive.<sup>7</sup>

### Pulmonary Lesions

The pulmonary lesion ranges in size from microscopic to several centimeters. Varying sizes may exist in a single patient. Many or only one lesion may be found. When multiple, the involvement may be confined to one lung or appear bilaterally.<sup>1</sup> Experience indicates that the lesion is usually visible on plain chest film. Single lesions predominate though two and even three lesions are not uncommon.<sup>1,6</sup> These are almost always subpleural or only slightly embedded in parenchyma<sup>1</sup> (Fig. 1 A-B). Furthermore, systemic vascular connections are decidedly uncommon (3.5 per cent) as are associated pleural adhesions (10 per cent). We may define the "typical" pulmonary lesion as "an abnormal arteriovenous communication between vessels of the lesser circulation occurring superficially in a mobile lung".<sup>5</sup>

Complications include hemoptysis (25 per cent),<sup>2</sup> spontaneous hemothorax (1.5 per cent),<sup>2,5</sup> lung abscess, metastatic brain abscess, paradoxical embolism, and serious right to left shunting of blood.

In the absence of dramatic complications, symptoms are often absent even though cyanosis and digital clubbing occur.<sup>6</sup> Auscultation of the chest reveals a continuous murmur over the lesion in 90 per cent of the



cases.<sup>6</sup> Such auscultation is aided by guiding on the plain chest film.

Radiographically, the differential diagnosis may require exclusion of tuberculosis, sarcoid, fungus, neoplasia (primary or metastatic), bronchiectasis, abscess, hematoma, pulmonary sequestration, and Hughes-Stoven Syndrome. (This syndrome is characterized by pulmonary arterial aneurysm and recurrent thrombosis of systemic veins and dural sinuses.)

The typical lesion is readily identified by a comma shaped shadow. Fluoroscopically, this shrinks in conjunction with the Valsalva maneuver and enlarges with the Muller maneuver.<sup>6</sup> Angiocardiography, while not essential to diagnosis, is mandatory to identify unsuspected lesions or systemic vascular communications. To be of value the angiogram must be a full sized chest film showing the periphery. Even then, small lesions may not be manifest.<sup>1,6</sup> Following resection of a fistula, previously undetected lesions may enlarge and further compromise cardiopulmonary function or demand re-operation.<sup>1</sup> Such facts indicate that surgical therapy be directed at local resection without sacrifice of pulmonary parenchyma.<sup>1,6,5</sup>

#### Case Presentation

I. On January 10th, 1961, E. N., a 32 year old, white male was admitted to the hospital with dyspnea, "heaviness" in the left chest, and weakness of eight hours duration. Slight pain was noted in the mid-left chest at onset but prodromata were denied. The review of systems revealed only occasional epistaxis. Physical findings were limited to the chest and compatible with left liquithorax. There was mild shock. A diagnosis of left hemothorax was established and extensive work-up carried out without establishing the etiology. Angiocardiography was not done due to the left thoracic density.

Thoracotomy for decortication disclosed what was considered to be a ruptured pulmonary arterial aneurysm in the left lower lobe. Wedge resection was performed.

Microscopically the three centimeter lesion was vascular but little else could be proven. Review of the patient's past history and family history was unavailing. (This man lived apart from the remaining family.) Following an uneventful convalescence, he was discharged and temporarily lost to follow-up.



FIGURE 11

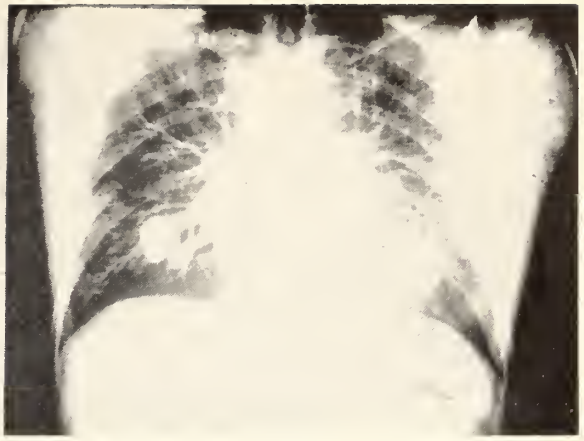
Note the comma shaped shadow (inverted) in the right, lower mid-lung field. (Plain film in Case II)

II. On December 1, 1961, K. N., 27 year old brother of E. N. appeared on advice from a Mobile Chest Survey unit. A peculiar pulmonary shadow was affirmed on standard chest film (Fig. II). Suspicions aroused a year earlier led to an enlightened bit of history taking. The patient had suffered frequent, severe epistaxis all his life. He knew of this same symptom in his mother and a third brother. He exhibited a few scattered telangiectases over the arms, upper trunk and lips. Careful auscultation over the area of radiographic density revealed a continuous grade II bruit. A diagnosis of Rendu-Osler-Weber's disease with pulmonary arteriovenous fistula was made. The third brother was contacted.

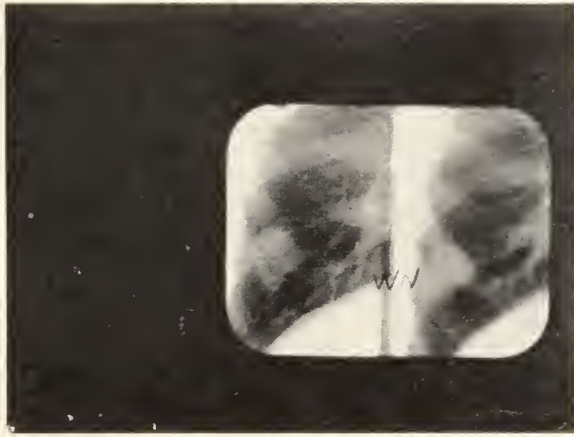
III. W. N., aged 33, presented with many stigmata. Telangiectases were abundant and diffuse, cyanosis and digital clubbing were apparent and epistaxis was frequent and severe. Radiographically, there were bilateral



A.



B.



C.



D.

### FIGURE III

- A. Plain film in Case III showing bilateral lesions
- B. Angiocardiogram showing bilateral lesions
- C. Fluoroscopic view of lesion in right lung (Case III). Valsalva on left—Muller on right. (See text)
- D. Same as C but showing lesion in Case II. Valsalva on right—Muller on left.

pulmonary lesions larger than those previously encountered. Again, continuous bruits were audible over both lesions.

### Comment

Plain chest radiography, fluoroscopy and angiocardiography were employed in evalu-

ating Case II and III. (Fig. III A, B, C, D.) It was decided to document the lesions with cineradiography as well. Certainly, angiography should have been done in Case I to fully evaluate the situation.

Surgery was advised and accomplished uneventfully for each lesion. The bilateral

	Preoperative Data			Operative Data			Postoperative Data		
	Hgb.	Hmt.	Art. O <sub>2</sub>	Op. Time	Occ. Time	Bl. Inf.	Hgb.	Hmt.	Art. O <sub>2</sub>
Case II	17.2	47	91%	2 hrs.	30 min.	none	14	41	98%
Case III Stage I	17.4	51	89%	1 hr. 40 min.	30 min.	200cc	15.3	46	96%
Case III Stage II	15.3	46	96%	2 hrs.	30 min.	none	14.7	43	96%

Fig. IV: Pertinent laboratory and surgical data in planned resections of Cases II and III.

lesions were staged (eight week intervals) (Fig. IV).

Some means of control of the pulmonary circulation must be assured in fistulectomy. In these three resections, temporary occlusion of the right or left main pulmonary artery was employed with complete satisfaction.<sup>5</sup> Excision was accomplished by sharp and blunt dissection close to the wall of the sac ligating feeder vessels as encountered.

#### The Family

It was possible to obtain information on some twenty-four members of the immediate family. The patients' mother, two aunts and three first cousins are known to suffer severe epistaxis. Case II and III are fathers, two sons of one and one of the other regularly experience epistaxis. Chest films of the mother and sons identified no pulmonary lesion. Of those contacted then, 50 per cent have epistaxis and 12 per cent have had pulmonary arteriovenous aneurysm. But of those having epistaxis, 25 per cent have had pulmonary lesions.

Survey of another such family of 231 members revealed 40 per cent to have telangiectasia and of these 15 per cent had pulmonary lesions.<sup>6</sup> In another series of nineteen pulmonary arteriovenous fistulae, 50 per cent were in association with familial telangiectasia.<sup>6</sup>

Atavism is attested to by many reports.<sup>6</sup>

#### Summary and Conclusion

Hereditary familial telangiectasia is surgically significant by virtue of its visceral manifestations. Of these, gastro-intestinal and pulmonary lesions are the most important sites of involvement.

While enteric telangiectasia may be a serious and vexing problem, it is less commonly so than the pulmonary lesion. Safe, effective surgery is available for the typical pulmonary lesion. Thus, it is incumbent upon us to diagnose these lesions and remove them surgically.

Severe epistaxis should lead one to investigate the patient's family history through several generations where possible and request a standard chest X-ray. Moreover, suspect relatives should be advised of their need for pulmonary radiography.

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# Editorials

## Guest Editorial....

The old admonition that haste may result in waste has never been more applicable than in present frenetic efforts for legislative action to create a new state Department of Mental Health.

House Bill 213 and Senate Bills 100 and 102, identical measures, would create the new department and would make other drastic changes in the organization and operation of facilities and services in this field. As one indication of the scope of this measure, it would in effect do away with the Division of Mental Health of the State Health Department and transfer its "assets and contractual obligations" to the proposed department by Oct. 1, 1963.

This "birdshot" bill scatters drastic proposals about the state and by some legislative alchemy would magically solve at one stroke complex problems of personnel, facilities, financing, and others.

Although the measure was prepared by a Legislative Interim Committee on Mental Health and Mental Retardation with little or no consultation with Alabama physicians, it is by no means all bad. There are many thoughtful suggestions; and those who are working for it should be commended for interest and leadership in this aspect of community health.

However, there is no crisis in mental health comparable to the Zermatt typhoid outbreak which necessitates immediate and drastic action.

At the annual session in Mobile in April, the Medical Association of the State of Alabama adopted a recommendation of the State Board of Censors opposing "premature legislative action" on the bill.

This was because the State Health Department is moving ahead with plans for a comprehensive study of Alabama's mental health problems and plans for meeting them. The United States Public Health Service has funds allocated for such a study.

It should be noted clearly that the Association did not oppose H. B. 213 nor did it oppose the idea of a central authority to direct Alabama's mental health program. And until the proposed study is completed, no one can say authoritatively what is the best approach for the state.

We certainly should keep an open mind and should consider results of the Legislative Interim Committee's work. By the same token, each physician in the state should inform himself on the bill and on the State Association's recommendation to delay legislative action pending the study. That view must be communicated **in person** to members of the House and Senate.

Speakers at the AMA-sponsored first National Congress on Mental Illness and Health in October, stressed that physicians must take

the leadership in "ameliorating these problems in a manner consistent with the highest standards of medical practice." They emphasized also that mental health programs should be under the state health department with medical leadership.

Physicians should appreciate the interest of legislators and of voluntary health agencies in mental illness, and should, through their own enlightened leadership, encourage this concern and effort to include all phases of the state's many health needs.

*Paul W. Burleson, M. D.*

### DIXIE POSTGRADUATE ASSEMBLY

The Third Annual Dixie Postgraduate Assembly will be held in Birmingham at the Tutwiler Hotel on July 17-19. Governor George Wallace will be banquet speaker on Thursday evening.

Speakers and their subjects for the three-day assembly will be Dr. W. A. Krehl, University of Iowa, Clinical Research Center, "Management of Acute Renal Failure"; Dr. A. J. Mullen, clinical assistant professor of psychiatry, Louisiana State University, "Depressed"; Dr. Victor C. Vaughan, III, department of pediatrics, Medical College of Georgia, "Effects of Drugs on the Baby in Utero and in Nursing"; Dr. Franklin J. Evans, president of the Florida Academy of General Practice, "Judicial Trends—Effect Upon Malpractice Litigation"; Dr. James W. Colbert, National Institutes of Health, "Developments in Respiratory Disease Vaccines"; Dr. Edgar Hull, professor of medicine, Louisiana State University, "Recognition of Sub-Clinical Disease"; Dr. George T. Pack, Pack Medical Group, New York, "Management of Primary and Metastatic Cancer of the Liver"; Dr. W. D. Snively, Jr., University of Louisville, "The Body's Response to Burning"; Dr. Philip Thorek, past president of the International College of Surgeons, "Reduction Mammoplasty"; and Dr. Benjamin Fowler, Vanderbilt University, "Tendon Injuries of the Hand."

In addition to the speakers there will be a panel discussion on "Fluid and Electrolytes," and "Trauma."

There will be a buffet dinner dance on Wednesday and the banquet Thursday evening. A number of activities are being planned for the ladies.

### HIGHWAY DEATHS

Motorists in 1962 raced down the nation's highways on their way to a new—and tragic—death record which for the first time exceeded 40,000 fatalities, according to a report released by The Travelers Insurance Companies.

The number of people injured in traffic accidents also took a sharp turn upward.

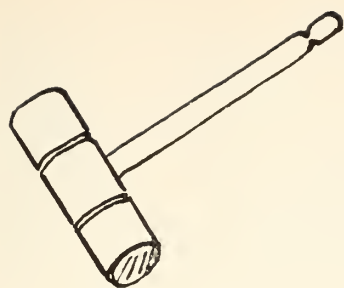
The authoritative report, first issued in 1931, is prepared annually by The Travelers and is based on information provided by state motor vehicle departments. More than 3,300,000 copies are distributed every year.

U. S. highway deaths in 1962 totaled 40,500, a seven per cent increase over 1961. Not since 1941, when 39,969 persons lost their lives, has the traffic fatality record been so high.

The report also reveals a nine per cent jump in the number of injured in 1962 compared with 1961. In all, 3,345,000 men, women and children were hurt in auto accidents last year.

"As it stands, last year's record is truly tragic," a Travelers spokesman commented, "But what makes it even more disheartening is that it comes on the heels of what we had hoped was a downward trend beginning in 1961."

Excessive speed again led the way as the primary cause of accidents. Nearly 13,000 people were killed and more than 1,145,000 were injured as a direct result of speeding violations. Other major causes of accidents included driving on the wrong side of the road and reckless driving.



# President's Page



When one sits down and turns his thinking towards the many facets of his professional life, he soon realizes that there is no part of life's activities he is not connected with in one way or the other.

Historians bring thrilling stories of how we got from a way back yonder to here and now. They enumerate and identify feats of accomplishments that seem almost unbelievable. They give credit and praise and glorify the various and sundry segments of society who spent money, time, brains as well as brawn in bringing this great country of ours from its wilderness, peopled only by savages, to the greatest nation on earth today. All

these facts one gladly recognizes and admits. One must also admit there is no way of separating the influence of an active medical practice, which includes public health, from the needs and benefits of society in every community during all these years of our development.

An individual or community can go it alone and surmount nearly every obstacle except that offered by disease whose etiology is known or unknown. Then he must seek the knowledge and skills of the doctor whose scientific progress and attainments have kept pace with all other advancements of society.

When such situations arise, the individual



or community must have utmost confidence and an undying faith in the doctor in order that good health may be restored and maintained.

Circumstances like these beget responsibilities the doctor must not shirk. Here he is the sole provider of physical salvation to humanity. Here he is the purveyor of concern that endears him and his profession, not only to the sick and needy but to the total population. Here he plants the kind of seeds that produce relationships that will withstand the storms of any and all adversities, be they political, socio-economic, or otherwise. Here by proper reactions doctors can prevent bureaucratic or third person medicine.

None can deny the part medical men have played in the scheme of things during the life time of our state. All must admit that the efforts of our leaders down through the years have been crowned with the kind of success that commanded respect and appreciation from the benefactors of their services. Too many have been prone to take such accomplishments for granted and have been misled into thinking there are other ways of doing these things better by changing the characteristics of the personalities composing the agencies through which these health standards have been reached.

The uniqueness of organized medicine in Alabama needs to be retold to all her people so they can better understand why all these advances came so harmoniously and with so little fanfare, political or otherwise. The functions and responsibilities of this set up can not be improved or expedited by changing its identity. If the powers that be want

more from this professional organization, which is the constituted public health agency of Alabama, then let them provide more revenues so more adequately trained people can be put to work on the expanding programs already under way in our state.

Who can do a better job of getting the most for the health dollar than the more than two thousand medically trained and legally licensed doctors in Alabama. These people compose this uniqueness and carry on this business of raising and maintaining the standards of health in the state. They do this through various specific boards and committees, including the county health departments.

The successes of tradition will fortify the present and furnish a potential which will assure a degree of security in the future if left in the hands of qualified persons.

As in the past, changes will be necessitated and dictated by circumstances presently existing. As in the past, there will also be men in all walks of life sufficiently trained and wise enough to take care adequately of these situations and keep the ethics of society equated with the best attitudes of the times. As in the past, doctors, too, will be in there contributing their share of know how; so no matter what comes, their unselfish efforts will be fruitful whether or not they make headlines.

This is the year when each of us must increase our concern and seek more and better results for our efforts.

*J. S. Daves, M.D.*



## ASSOCIATION FORUM

### THE GRAND STRATEGY OF FREEDOM

By the HON. SAMUEL B. PETTENGILL

Former Congressman from Indiana

**Socialism's secret weapon is money.**

Governments formerly gained power by the sword and swelled their coffers by conquest and tribute. That method is still used, but chiefly against foreigners.

*Modern governments obtain power over their own people in a more subtle fashion. They tax away the earnings of their people, and then dole some of it back to them in subsidies, gifts, grants-in-air, and the award of huge government contracts.*

By this process they become the masters of men, and cease to be their servants. The historic relationship is reversed. Instead of government coming to the people for its support, the people come to the government for their support.

Hitler put all groups in Germany in pawn to him via the money route. In the face of the granting or withholding of public money, opposition died away. People began to keep their mouths shut—business men first—but, finally, editors, educators and ministers. He thus united both conservatives and radicals behind him. This is a very important point.

**In this country, governors of states, mayors of cities and members of business organizations—Chambers of Commerce—including those most opposed to Socialism in the abstract, become beggars at Washington for a**

return of some of the money collected from them in their own communities—less the political brokerage. As beggars, they fawn and smirk.

Big government breeds little men. The great "power of the purse," with which the representatives of the taxpayers once held the executive branch in check, is rapidly passing into the hands of a political Santa Claus.

**Not one of the extensions of Socialism could be put into effect without money. Cut off the money supply—and the power to borrow—and you stop them in their tracks. As Jefferson said, "We must make our selection between economy and liberty, or profusion and servitude."**

Harry Hopkins gave the formula for Socialism—tax, spend and elect. Yet because they fail to grasp the grand strategy of freedom, various groups exhaust themselves on scattered tactical skirmishes—good in themselves, but largely futile in the face of this overpowering flood of money.

Justice Holmes used to say, "We must strike for the jugular and let the rest go." I would urge no one to abandon the fight for his own program or group, but the number one plank in all platforms must be the exact reverse of the Hopkins formula—"Reduce

taxes and spending, especially at the federal level. Keep government poor and remain free."

Make that the number one plank in all platforms for freedom. The doctors can then fight socialized medicine; owners of real estate can fight public housing; others can fight federal control of education; business can fight government competition; others can fight to relieve privately created wealth of some of the tax burden.

**With reduced Federal spending and sharply reduced taxes as the number one plank of all groups, they can then fight with some chance of success.**

**As it is, with each group fighting some single phase of Socialism in which the others are not particularly interested, they are picked off like sitting ducks.**

The Socialist planners lull the unthinking with the trick question, "What freedom have you lost?" That's easy to answer. It is my freedom to keep what I earn and spend it as I please. That's the vital distinction between European Socialism and American individualism. "To have and to hold," written into millions of title deeds, tells the story of the individual incentives and rewards that have produced America's magnificent achievement.

**A grand strategy for freedom is imperative. We must unite on one point, easily understood, which touches the pocketbook nerve of millions of voters. Intellectual arguments are not enough. You must appeal to the legitimate self-interest of millions. We must find the common denominator of mass resistance to Socialism. The common denominator is the pocketbook. On that concept and that alone can you mobilize an army sufficient in numbers to wage successful war.**

We must show millions of voters how they are being hurt—how their security for old age is melting away. The present "run" on our gold by foreign creditors is a storm flag which only fools will disregard.

There are millions of life insurance policyholders. As money becomes cheap, their se-

curity shrinks and in time vanishes. A policy paid up in 1940 has lost more than half its value in terms of what it will buy today.

A life insurance president has just told us of the disastrous effect of the cheap money policies of the past 20 years on life insurance security. The insurance companies are forced to earn less on their investments. Therefore, they must charge higher premiums for the same protection. Then when the policy is paid, the money received is taxed more, and buys less. To cover all these losses, a typical life insurance holder needs to take out at least 90% more insurance to provide the same purchasing power and protection as in 1929.

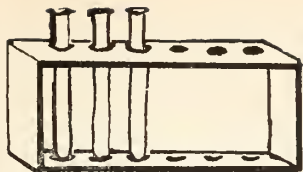
*Most of the beneficiaries of life insurance are women. Tell them what taxes and debt and rotting money are doing to the security their husbands have worked so hard to provide. "Old age and want—thou ill-matched pair."*

Then there are other millions who own government bonds. A bond bought ten years ago for \$75 can be cashed today for \$100. But the \$100 will buy you less than the \$75 did when you turned it over to the government. So you have lost all your interest and part of your principal. And you are ten years older.

Then you have 50 to 60 million people who have been compelled to buy what are called "social security" cards. Their hoped-for security melts away as dollars become cheap. To make up the loss, bills are in Congress to pay them more of these rotting dollars, adding to the tax burden to be carried by all industry, forcing prices still higher, and the music goes round and round.

**The guarantees of government are writ on water and carved in sand. Something for nothing is the moral cancer of a free society. Once begun, there is no stopping its deadly course except to find the lowest common denominator of the mass resistance of millions of voters—the pocketbook and the fear of poverty in old age. This is the grand strategy of freedom.**





# STATE DEPARTMENT OF HEALTH

## Public Health Programs And The County Medical Society

Geo. A. Denison, M. D.

1310 Saulter Road

Birmingham, Alabama

### PREAMBLE

*Title 22, Sec. 4, Code of Alabama, 1940, reads:*

*"The boards of censors of county medical societies in affiliation with the Medical Association of the State of Alabama. . . . are constituted county boards of health of their respective counties, including all incorporated municipalities therein".*

*The Health Officer is appointed by the Board and serves as executive officer. The Health Department is the agency through which he carries out the policies and programs of the Board. There are no duplicating boards of health or health departments and there is freedom from political interference. This is the atmosphere in which the author has spent the last 21 years as health officer.*

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Presented at a meeting of the American Medical Association Institute in September, 1962.

Dr. Denison is a graduate of Baylor University College of Medicine. After 38 years of public health work, Dr. Denison retired in September, 1962.

Communities are like people. Their general features are the same but they differ greatly one from the other. The health officer has one patient—the community. The physician in private practice has another patient—the individual. One represents government enterprise, the other private enterprise. Both deal directly with people to prevent the occurrence of disease or to prevent progression of disease. We have much in common. We have the responsibility of working together for the good of the community, and we need each other's help.

Public health programs are by definition community action programs and as such are controlled by government. The philosophy of government becomes involved and, while there is no unanimity of opinion, the expressions of Lincoln are often quoted:

"The legitimate object of government is doing for a community of people whatever they need to have done but cannot do at all, or cannot do so well for themselves in their separate and individual capacities."

Community action should not abrogate private enterprise and individual responsibility

when the individual is willing and able to furnish his own health protection. Regardless of the extent of their limitation people who are educationally or economically needy should be encouraged to help themselves.

While the principle involved justifies this attitude, it is a fact that the job to be done is tremendous and that all community resources need to be utilized to the best advantage. Many health departments are unable to fully meet the public health needs of the medically indigent, and divergence of effort to higher socio-economic groups serves only to further restrict coverage of the indigent. Continuing programs of health information and health education are necessary to stimulate all socio-economic groups to want health protection enough for themselves and their children to go to some inconvenience to obtain the service. The Medical Society has responsibility in this direction.

Whatever the local custom, people soon learn where to go. In many communities the bulk of the immunization program is carried on in attractive public clinic areas constructed under the Hill-Burton Act. In one urban Alabama county, by mutual agreement between Board of Health and Medical Society, a crash program on Salk vaccine was carried out by bringing school children to the health department in school buses for inoculation. In that county there has never been a spirit of competition or rivalry between the medical society and health department, and immunizations are given in public clinics to anyone who applies. It would appear that in most instances health departments immunize anyone who comes to their door but with private practice still carrying the greater load.

The program in Birmingham (Jefferson County) has been a natural development without feeling or pressure from any source. Influencing factors have been a large industrial population, 34.6 per cent non-white, and limited funds for public health. We have found it reasonable to limit our immunization program to the low socio-economic group and to refer others to private practice. With the

large number of infants born each year this division of responsibility gets the job done. Door-to-door surveys are made annually and indicate reasonably good protection of the child population. A sample survey covering 10,000 children in 1962 showed:

	A g e s :		
	Less than 1 year	1 thru 5	6 thru 18
Polio	54%	60%	76%
Triple Antigen, DPT	45%	73%	84%
Smallpox	23%	46%	80%

Areas covered do not include those where nurses do little or no home visiting. Percentages would be greater if more of the higher socio-economic group were included.

During the past five years in a population of 635,000, of whom 220,000 are non-white, there has been one death from diphtheria, two from pertussis and one from polio (all non-white). The material reduction in morbidity and mortality from these diseases is in contrast to the continued high frequency of deaths from tetanus which are scattered among all age groups. The development of a satisfactory method for identification of those who have received tetanus toxoid and broader application in the administration of tetanus toxoid to the general public should be of paramount interest to the health officer and the private practitioner, and affords an opportunity, a challenge really, to some local health department and county medical society to put on a demonstration and find the answer.

Our policy precludes the giving of immunizations to meet requirements for foreign travel. People who can afford to travel abroad can afford to make other arrangements. Since Yellow Fever vaccine is not otherwise available we conduct clinics for its administration, but charge for the cost of the vaccine.

Threats of epidemics and emergencies will continue to require immediate and direct ac-

tion by the health department to control a situation. The occurrence of cases of polio of a particular type may necessitate the immediate saturation of a local community with oral vaccine of the corresponding type. We recently experienced gross pollution of the water supply of a large school with sewage effluent. Within 24 hours after the incident became known 1,200 pupils and their household contacts had been given typhoid vaccine and polio vaccine by the health department. Good communications were important. All physicians in the neighborhood were telephoned immediately. Within a week all physicians in the county had received letters describing the incident, emphasizing the need for prompt reporting of infectious disease, and the value of paired blood specimens for diagnostic purposes.

A second fundamental in extending protective health services to the public is creation of enough appreciation of the value of the service for the individual to go to some trouble or expense to obtain it. Otherwise, parents will not follow through for the full number of injections of vaccine recommended for their children, or the pregnant woman may fail to keep clinic appointments. A prime example is that of the mother with two children. The older child was given diphtheria toxoid at home by the public health nurse. The younger child developed diphtheria and died. When asked why the younger child had not been immunized, the mother said, "I was waiting for the nurse to come and give 'the shots'." Another example dates back to the time diphtheria was prevalent and diphtheria toxoid was quite new and not too well accepted. Toxoid was given to the first graders at school. The parents liked this because no effort or expense was required on their part. They waited for the child to get his "shots" at school and consequently many children went through the most susceptible age period without protection against the disease. Obviously, the program was discontinued.

People who get something for nothing usually regard its value as nothing. Some sense of appreciation can usually be created by charging a token fee for a clinic visit, an X-ray film, or drugs for treatment of tuberculosis. If they can pay the "going" rate, they do not belong in the clinic; but those who can pay nothing should never be refused service.

A generally accepted principle in public health practice is that clinics must be decentralized to the areas in which the educationally and economically needy live. Districts are created in which the public health nurse sees the patient at home and again in the clinic with the physician. Insofar as possible we recruit young physicians who practice in the area where the health center is located and employ them on a clinic-session, fee basis. If practicing physicians are not available, hospital residents are utilized. Selection of the clinical staff is by part-time, specialty consultants who also give supervision. Obviously they are dedicated people. The number of physicians operating the clinics for an average month approximates 50 for 225 clinic sessions. We believe that the willingness of clinicians to render a public service by working in our public health clinics is acceptance on their part that the program is properly directed. The professional service is distinctly top quality and the arrangement far preferable to the employment of physicians not engaged in private practice.

Request is made of physicians who report cases of primary or secondary syphilis that they permit an experienced investigator from the Health Department to conduct a confidential interview with the case to identify sex contacts and associates. The request is rarely refused. As an example of team-work, a chain of infectious syphilis was uncovered involving 47 homosexuals of whom 46 were private cases with an estimated average income of \$10,000 per year.

Physicians who have suspected cases and contacts of tuberculosis who are medically



indigent know that such persons can be referred to health department clinics and that reports of skin tests, chest X-rays and clinical findings will be made to the physician. The practitioner often seeks help of the public health nurse in rounding up contacts of cases and getting them under medical supervision. This reminds us that a primary purpose of health department practice is to get people under medical supervision.

There are areas of highly specialized service which require the best brains of the medical profession if the public interest is to be well served. Advisory committees to the Board of Health include a Committee on Vision and Hearing composed of ophthalmologists and ENT physicians who guide the Board of Health and Boards of Education on administrative policy and technical procedure in the testing and referral of school children seen in schools and public clinics. A Tuberculosis Advisory Committee composed of internists and radiologists arbitrate questionable cases of tuberculosis to determine employment status of school teachers and food handlers seen in public clinics and in private practice. A Radiological Health Committee composed of radiologists and an engineer to represent industry has drawn a model set of regulations governing radiological health now actively enforced by the Health Department with good co-operation of physicians, dentists and hospital administrators.

Last year, on request of the Board of Health, the Chamber of Commerce organized a Committee on Air Pollution Control, composed of members of business, industry and community leadership. This committee will review local air pollution data now being accumulated by the Health Department, will study regulations in effect in other areas, and will advise the Board of Health on laws to be sought for enforcement of local control measures.

The regulatory authority of Boards of Health crosses many paths and involves

highly technical decisions in which those who are served or who are regulated are not represented. To add soundness to the program and to broaden participation in public health affairs, the Board of Health in 1958 organized an "Advisory Committee" composed of designated representation from associations, councils and societies of dentists, lawyers, pharmacists, professional engineers, health, hospitals, labor, dairies, restaurants, real estate, PTA, Chamber of Commerce and Community Chest. These are resource persons whose advice is sought on problems in their particular field of competency. Committee members receive notices to attend all regular meetings of the Board and of the proposed agenda.

Some of the cobwebs of discredited public health practice could be eliminated if there were more professional and less political control, such as the needless waste of money and professional time from duplicated efforts of city and county health departments. A horrible example is the continued practice of a few health departments to certify food handlers on the basis of a cursory physical examination, a chest X-ray and serological tests for syphilis. The cursory physical examination is worthless; the chest X-ray would be of more value if utilized in case to contact investigation of tuberculosis, and serological tests for syphilis indicate nothing more than an interest in the "extra-curricular" activities of food handlers having nothing to do with the handling of food.

Emphasis in public health practice is shifting from prevention of occurrence of disease to the prevention of progression of disease in the middle and older age groups. The field of geriatrics is in its infancy. There has also been added emphasis on the newer environmental health programs such as radiological health, atmospheric pollution control, and accident prevention. Regardless of the changes that come, now or later, professional direction of medically related programs is desirable. This involves participation and leadership of the individual physician and of his county medical society.

## DEPARTMENT OF HEALTH

## BUREAU OF LABORATORIES

Thomas S. Hosty, Ph.D., Director

April 1963

Examinations for malaria.....	0
Examinations for diphtheria bacilli and Vincent's.....	13
Agglutination tests.....	9
Typhoid cultures (blood, feces, urine and other).....	92
Brucella cultures.....	0
Examinations for intestinal parasites.....	45
Darkfield examinations.....	9
Serologic tests for syphilis (blood and spinal fluid).....	24,019
Examinations for gonococci.....	1,670
Complement fixation tests.....	17
Examinations for Negri bodies (smears and animal inoculations).....	273
Examinations for tubercle bacilli.....	3,559
Milk and dairy products examinations.....	4,010
Water examinations.....	2,043
Miscellaneous examinations.....	4,636
<b>Total.....</b>	<b>40,400</b>

\* \* \*

## BUREAU OF PREVENTABLE DISEASES

W. H. Y. Smith, M. D., Director

## CURRENT MORBIDITY STATISTICS

1963

	Mar.	Apr.	*E. E. Apr.
Tuberculosis.....	154	119	154
Syphilis.....	126	142	155
Gonorrhea.....	301	282	319
Chancroid.....	5	2	4
Typhoid fever.....	0	1	1
Undulant fever.....	0	0	0
Amebic dysentery.....	8	7	5
Scarlet fever and strep. throat.....	323	122	151
Diphtheria.....	1	0	2
Whooping cough.....	14	4	41
Meningitis.....	7	6	8
Tularemia.....	1	0	1
Tetanus.....	2	3	1
Poliomyelitis.....	1	0	1
Encephalitis.....	0	1	1
Smallpox.....	0	0	0
Measles.....	420	313	519
Chickenpox.....	463	142	260
Mumps.....	186	91	192
Infectious hepatitis.....	102	37	41
Typhus fever.....	0	0	0
Malaria.....	0	0	0
Cancer.....	733	662	559
Pellagra.....	2	1	0
Rheumatic fever.....	29	12	16
Rheumatic heart.....	42	39	23
Influenza.....	46,082	1,832	366
Pneumonia.....	1,030	334	248
Rabies—Human cases.....	0	0	0
Pos. animal heads.....	8	1	0

As reported by physicians and including deaths not reported as cases.

\*E. E.—The estimated expectancy represents the median incidence of the past nine years.

## BUREAU OF VITAL STATISTICS

Ralph W. Roberts, M. S., Director

PROVISIONAL BIRTH AND DEATH  
STATISTICS AND COMPARATIVE DATA,  
MARCH, 1963

Live Births Deaths Causes of Death	Number Registered During March 1963			Rates* (Annual Basis)		
	Total	White	Non- White	1963	1962	1961
Live Births.....	6,323	3,929	2,394	22.1	23.7	23.2
Deaths.....	3,336	2,045	1,291	11.6	9.0	8.5
Fetal Deaths.....	123	56	67	19.1	16.3	22.2
Infant Deaths—						
under one month.....	112	63	49	17.7	19.8	17.0
under one year.....	190	92	98	30.0	32.3	28.1
Maternal Deaths.....	7	2	5	10.9	5.9	9.0
Causes of Death.....						
Tuberculosis, 001-019.....	32	14	18	11.2	7.8	7.1
Syphilis, 020-029.....	3	1	2	1.0	1.8	2.5
Dysentery, 045-048.....					0.4	
Diphtheria, 055.....						0.4
Whooping cough, 056.....					0.4	
Meningococcal infec- tions, 057.....	1		1	0.3	0.7	0.4
Poliomyelitis, 080, 081.....	1	1		0.3		
Measles, 085.....					0.7	1.1
Malignant neo- plasms, 140-205.....	355	264	91	124.0	107.6	96.9
Diabetes mellitus, 260.....	50	34	16	17.5	13.0	15.3
Pellagra, 281.....	2	2		0.7		0.4
Vascular lesions of central nervous system, 330-334.....	461	285	176	161.0	121.3	118.6
Rheumatic fever, 400-402.....	3	1	2	1.0	0.7	0.7
Diseases of the heart, 410-443.....	1,006	666	340	351.3	320.2	287.8
Hypertension with heart disease, 440-443.....	146	49	97	51.0	48.7	55.6
Diseases of the arteries, 450-456.....	64	43	21	22.3	23.6	19.9
Influenza, 480-483.....	140	75	65	48.9	6.3	5.3
Pneumonia, all forms, 490-493.....	214	107	107	74.7	32.4	34.6
Bronchitis, 500-502.....	10	7	3	3.5	3.2	0.4
Appendicitis, 550-553.....	2	2		0.7	0.7	1.8
Intestinal obstruction and hernia, 560, 561, 570.....	8	4	4	2.8	4.6	2.1
Gastro-enteritis and colitis, under 2, 571, 0, 764.....	5	2	3	1.7	2.1	1.1
Cirrhosis of liver, 581.....	16	10	6	5.6	3.2	6.1
Diseases of pregnancy and childbirth, 640- 689.....	7	2	5	10.9	5.9	9.0
Congenital malforma- tions, 750-759.....	26	16	10	4.1	4.6	4.8
Immaturity at birth, 774-776.....	35	21	14	5.5	4.3	3.7
Accidents, total, 800-962.....	203	144	59	70.9	57.1	52.7
Motor vehicle acci- dents, 810-835, 960.....	73	59	14	25.5	24.3	24.2
All other defined causes.....	463	279	184	161.7	130.1	126.1
Ill-defined and un- known causes, 780- 793, 795.....	229	65	164	80.0	37.4	43.1

\*Rates: Birth and death—per 1,000 population

Infant deaths—per 1,000 live births

Fetal deaths—per 1,000 deliveries

Maternal deaths—per 10,000 deliveries

Deaths from specified causes—per 100,000 population

# *The Woman's Auxiliary*

Dear Doctors:

Greetings to you again. It is May first as I write this, and it would be wonderful if the dewy freshness of this morning could be preserved to the time when you read this. Actually, 38° was almost a little too fresh for May. Brings to mind the quote "... lo, the winter is past, the rain is over and gone; the flowers appear on the earth; the time of the singing of birds is come, and the voice of the turtle is heard in our land;". That last part always puzzled me. If I ever heard a turtle's voice, I did not know it. Frogs, yes—but not turtles. Maybe I do not live in the right land.

Sandwiched in between my late, late, late reading of the Spring Readers Digest Condensed Book, in which "The Surgeon" is very good, and Pearl Buck's latest, "A Bridge for Passing," I have been perusing the Handbook of the State Medical Association, put out for delegates to the convention, which I filched from my husband's mail. I swelled with pride at your mention several times of the Auxiliary. We will be most happy to take your suggestions under consideration.

Now that the state convention is over, we think back on it with pleasant memories. Among the most pleasant is that of being surprised, just after settling in the Battle House, to meet Dr. Frank Rose coming out of the elevator. Overheard remarks of: "He looks just like a movie star," "He is going to speak to the doctors," "They always have the best speakers." And, truly, a combination of Dr. Rose and Dr. Edward Annis is hard to beat, for any convention, on the grounds of delivering spell-binding talks. There was much ado during the Auxiliary meetings, to finish in time to make the trek to the Admiral Semmes to be part of the audience for these two fine speakers. Makes us consider next year's program as possibly including in our ladies' meeting some of your speakers. From the point of view of traffic control, it would be simpler for one person to change his location than for many of the audience to change



theirs. And I have a feeling that attention might not wander if we were assured of the speakers' being included on our program, instead of trying to rush through to fly over to the doctors' meeting. There may be good reasons for not doing this, however. We will be open to suggestion.

One of the most amusing incidents of the convention came as a result of a display by our clever AMA-ERF chairman, Sonja Smith (Mrs. Curtis A.) of Mobile. She had a large calendar for February, a red heart pinned over every date. Interesting little directions on the back of each heart would be followed daily, directions for amounts of money to be put into an AMA-ERF box. Picking one at random, she read the back of the heart covering Feb. 2 which said to contribute a penny per inch of the husband's waistline. Can you guess who brought down the house by saying she would go broke on Feb. 2?

If all goes as planned, National President Louise Thuss will write in this space next month. Meet her here.

And again to each of you from his own Auxiliary member, the ending words of a popular song to help you withstand the lonely and lovely patients and good-looking nurses—"... but remember, darling, remember you're mine."

Sincerely yours,

*Marlys R. Sutton*

J. M. A. ALABAMA



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